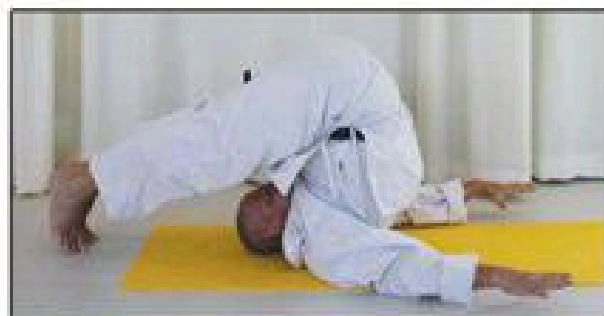


# PLYO-FLEX

**Plyometrics  
and Flexibility  
Training for  
Explosive  
Martial Arts  
Kicks and  
Performance  
Sports**



**Jump higher, run faster,  
be stronger, kick better!**



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# Plyo-Flex: Plyometrics and Flexibility Training for Explosive Martial Arts Kicks and Performance Sports

**by Marc De Bremaeker**

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## Warning-Disclaimer

This book is designed to provide information on the techniques and skills of plyometrics, stretching, kicking and martial arts. It is not the purpose of this book to reprint all the information that is otherwise available to the author, publisher, printer or distributors, but instead to compliment, amplify and supplement other texts. You are urged to read all available material, learn as much as you wish about the subjects covered in this book and tailor the information to your individual needs. Anyone practicing the skills, exercises, drills or techniques presented in this book should be physically healthy enough to do so and have permission from a licensed physician before participating.

Every effort has been made to make this book as complete and accurate as possible. However, there may be mistakes, both typographical and in content. Therefore, this text should be used only as a general guide and not as the ultimate source of information on the subjects presented here in this book on any topic, skill or subject. The purpose of this book is to provide information and entertain. The authors, publisher, printer and distributors shall neither have liability nor responsibility to any person or entity with respect to loss or damages caused, or alleged to have been caused, directly or indirectly, by the information contained in this book. If you do not wish to be bound by the above, you may return this book to the publisher for a full refund.

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# Dedication

This book is dedicated to my wife and life companion of thirty five years. Without her love and support, nothing would have seen the light of day. Being an athlete in her own right, she knows about hard work and long hours.



Aviva Giveoni-De Bremaeker

## Acknowledgements

Thank you to my co-author and technical adviser to this book, Roy Faige. For his unwavering support in spite of all the difficulties we had on the way, for his life-long friendship and for hours of arduous training, he should be commended.

Late Sensei Sidney Shlomo Faige should be mentioned as the central pivot of my Martial Arts career.

Thank you to the dedicated Martial Artists who posed for the photographs and the drawings: Roy Faige, Ziv Faige, Gil Faige, Dotan De Bremaeker, Nimrod de Bremaeker, Shay Levi, Tamir Carmi, Itay Leibovich ...

Special thanks to Shahar Navot, the professional illustrator and Martial artist who did all the drawings for my previous book (“Essential Book of Martial Arts Kicks”). Shahar could not participate to this work, but he should be mentioned: Everything I know about illustrating, I learned from him. Our previous collaboration has taught me so much, but I am still very far from getting close to his talent.

Some of the photographs have been extracted from previous photos sessions book by gifted professional photographer Guli Cohen. Other photographs have been taken by my life partner Aviva Giveoni and by talented Grace Wong.

## Introduction

Fighting is a well-rounded physical activity: It requires strength, speed, endurance, agility,

explosiveness, flexibility, core musculature and mental qualities. No wonder it was at the core of the ancient original Olympic Games.

Today's fighter, besides his particular technical training, usually runs short and long distances, skips rope, trains with weights and weight machines, and does complementary cross training activities.

This book is focused on the kicking skills of Martial Arts of all types, but it is highly relevant to all athletic activities requiring power, flexibility and explosiveness. The drills presented are simple and versatile; they generally are not Martial Arts-specific. The more specific kicking drills are variations of basic drills designed to arouse more interest with the fighter; they can be executed easily by athletes from other fields if they so wish, but they can also be disregarded with no impact on the overall system success.

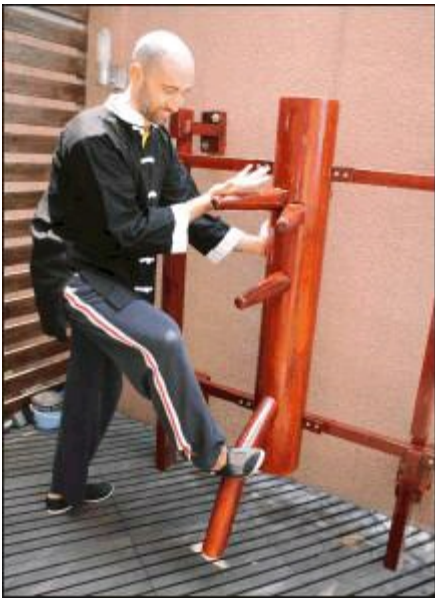
It has been the premise of my previous book that kicking is a superior skill to punching but requires much more training. Fans of the MMA fights like the UFC have surely noticed that knock-outs by punches come usually at the end of a series of punches, but the much rarer knock-out by kicks comes after a single well-timed technique. Whether one agrees or not, one will have to concur that effective kicking requires especially hard training. Besides the regular technical training in one's chosen discipline, a few specific kicking training exercises have been presented in the previous volume mentioned. Those were just simple drills specific to the given technique and only given as examples. It is clear that the amount and variety of possible exercises to improve kicking skills are huge. Some more will be presented at the end of this book.



Example of one of many kicking drills



More examples of kicking drills

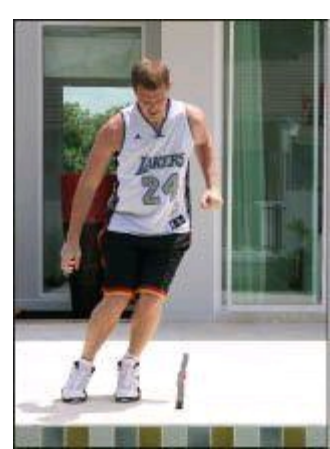


Every school and training camp has its own kicking routines and drill sets to both improve the kicking techniques of the students and their general physical stamina and preparedness. Those classic training drills are well known and used, and most of them will be categorized at the end of this book, just as a reference and invitation to the reader to further research them. The well prepared kicker will train his muscles for strength, his techniques for speed and accuracy, his free-fighting for timing and positioning, his heart and lungs for stamina, and more; just like any other athlete.

But, in the opinion of the author, there are two categories of exercise that are under-used for many reasons and that really can bring kicking mastery to a superior level: Plyometrics and Flexiometrics. The methodical drilling of those two categories of exercises, in tandem, do bring exceptional progress. And this is not only true for martial arts and martial arts kicks: All sportsmen can benefit from the drills presented, in spite of the fact that they are sometimes a bit specific. By doing these drills in an organized fashion, one will run faster, jump higher, develop more power and perform better, in any activity. But as two sides of the same coin, Plyometrics and Flexibility Training, must be drilled simultaneously and methodically.

Plyometrics could be defined as the drilling for explosiveness. Explosiveness could be defined in turn, for sports, as a combination of power and speed. This definition makes immediately very clear how important it is for the “kicking” part of the art. The principle behind this kind of exercise is that you drill the muscle by contracting it eccentrically and then immediately, concentrically. The theory and physiology behind it is not of great importance for our purpose, but will be hinted at in the relevant chapter. Just remember that you will usually stretch the muscle before shocking it into contracting. For anybody doubting the bump in performance he can expect from serious plyometrics

training, the generally agreed upon history of its development would be of interest. The Russians dominated track and field athletics in the Fifties, until the secret of their success was discovered as the training techniques of coach Yuri Verkhoshansky. Only once these techniques became generally used and refined all over the world, did the field level. Plyometrics started to be used in all sports with great success.



Plyometrics are used in all sports, Basketball for example

There are today many variations and denominations, like “Kinetic energy accumulation training” or “Shock training”, but the basic ideas behind the drills are the same. Some of the exercises presented will even be outside the physiological theory presented, as what is important for us is not the pure sport science, but the contribution of the drill to more explosive kicking or athletic performance.

It is the author’s opinion that plyometrics are not used enough in martial arts for two basic reasons. One: plyometrics have sometimes the bad reputation of being dangerous and detrimental to the joints. To this we reply that plyometrics are a tool and it is the way it is used that will make it beneficial or detrimental. Cautious and gradual drilling will ensure no harm is done while huge progress is achieved.

The other reason is probably because it does not look much like martial arts and is not sexy enough for class practice where students expect high kicks and a lot of fighting action. Jumping off boxes does not come close to the enjoyment of free fighting... This is why we have tried in this book to present as many as possible drills including kicking, whether pure plyometric or hybrid.

Flexiometrics is an invented word in the spirit of Plyometrics. It should mean something like Intensive Stretching. The exercises are not new or based on any novel theory. The word comes in here to try to underline the fact that a lot of investment in stretching is required for explosive kicking, much more than what is usually done. Much too often, stretching is part of the warm-up and cool-down of training sessions, and that’s it. Although it is extremely important to stretch before and after training, this should not be considered flexibility training. The serious Martial Arts kicker should have dedicated stretching training sessions at least three times a week, session not shorter than one hour. This is the second “secret” of explosive kicking, and it should be noted that it is not limited to success in high kicking: it will give the same performance boost to medium and low kicking. “Flexiometrics” is therefore, for us, the systematic and separate work on stretching and flexibility that will benefit the kicker. A minimal amount of theory about flexibility will be presented in the relevant chapter, but it is the yoga-type work that is favored by the author. In fact, the martial artist that has the

time and opportunity should cross-train with yoga for optimal results. If not, let him concentrate on the exercises presented here.



Flexibility training is key for the success of the Kicking Artist



Flexibility training should start as early as possible, but can be greatly improved at any age

Again, the author feels that flexibility training is looked down upon because it takes away precious time from sexier martial art training, and also because most artists do not understand its importance. Flexible artists tend to believe they do not need it, and stiff ones are happy with their techniques and do believe that the time needed for some small eventual improvement is not justified. They are both wrong. It is true that flexibility improvements require time and methodical training but they will bring, much faster than thought, huge progress to kicking speed and range.

Many feel that flexibility is a genetic given and that not much can be done if one is born stiff. It is true that genetics are important, and that one should start exercising his flexibility as early as possible. But one's flexibility can greatly be improved by regular and intensive training. It has been shown by academic research, and time and again proven in practice with our students; there is no doubt about it.

It should be noted that this book does not pretend to be exhaustive. It will present a range of exercises that the author feels should be practiced by the martial art kicking artist. But there are many more possible drills, probably all beneficial. There would be no point in an encyclopedic presentation of the subject, and the reader is invited to do his own research and devise his own variations.

Of course, plyometrics and flexiometrics are not enough to make you a master kicker. But all other training exercises being equal, the author feels that they are the two secret ingredients that will bring your kicking abilities to the next level. The reader is invited to do alternating sessions of plyometrics and flexiometrics based on the drills presented, and see for himself after only a few weeks. The preferred schedule would be:

Monday: Flex

Tuesday: Plyo

Wednesday: Flex

Thursday: Plyo

Friday: Flex

Saturday and Sunday: None of the above.

One full day rest a week without any type of training at all is highly recommended. It must be underlined, and will be explained later, that training routines should be fixed, for at least a month: Changing exercises on account of not getting bored is not conducive to optimal progress. Routines should be changed after three months regular continuous use.

A goal is not always meant to be reached, it often serves simply as something to aim at.

Bruce Lee



# Part 1: Plyometrics

## Chapter 1: General

### Principles

The Merriam-Webster dictionary defines plyometrics as: “exercise involving repeated rapid stretching and contracting of muscles (as by jumping and rebounding) to increase muscle power”. The stretching before contracting ensures a more intense contraction, and therefore more explosive power. The use of “explosive” tries to convey a dimension of time to the qualities gained by such training: The muscles trained will so be stronger while contracting faster at peak power.

Muscle strength is the maximum force one can squeeze out of his muscles, like the heaviest weight one can lift. Muscle power is: achieving this full strength fast.

A muscle needs to contract in order to cause movement. It has been demonstrated that this concentric contraction will be all the more energetic if the muscle has been stretched immediately before in what is called eccentric contraction, storing in fact some elastic energy. In layman’s terms, you get more bang for the buck if you lengthen your muscle just before you contract it into the required move, and this because it adds the energy from your muscle elasticity to the whole equation. This is often referred to as the stretch shortening cycle. A muscle stretched just before it contracts will do so with more energy. As the muscles become used to the extra power, they become more efficient at storing elastic energy. The total amount of power exerted during the exercise is more than with regular exercise, therefore causing more muscle potential power with time. The muscles become able to go from the eccentric contraction to the concentric contraction faster, thus creating “peak power” – fast maximum energy. This is what is referred to as “shortening the stretch cycle”.

This is one of the reasons why most exercises should be executed in a “multi-response” way, meaning in series and with no pause in between the jumps. Multi-response keeps fast alternating of stretch and contract, and challenges the muscle accordingly. All exercises should be started single-response to let the body familiarize itself with the specific move. Then, when adequate, one should gradually strive to go multi-response: back and forth fast and with no rest.

There is much more to the full physiological theory than what has been presented: there is a part played by the myotatic reflex, which is the automatic contraction of a stretched muscle; and a neurological part played by same “stretch” reflex which lowers the body’s tendency to automatically limit maximum power exerted. Plyometrics drills will therefore improve gradually the neuro-muscular interactions while allowing for the highest possible energy application in training. The several existing theories on how and why it works are probably all valid and complement each other.

For the reader who is interested in the theories behind plyometrics and wants to delve into the very interesting physiological details, I would recommend the works of the “father” of modern plyometrics: Prof. Yuri Verkhoshansky. His works are readily available in English and extremely detailed.



## Caution

Plyometrics are not for the untrained. Some coaches have given them a bad reputation and are firmly against their practice on the grounds of safety. They argue that the benefits are largely outweighed by the damage they can cause, because they apply to the muscles, joints and connective tissues more energy than what they are built for. The author will argue that it is exactly what sport is about: furthering gradually the border of human potential, with the emphasis on gradually. All physical activities lead to some fiber destruction that will allow the body to re-build stronger fibers to adapt to what is regularly asked from the same body. Ask—slowly—more and more of your body and it will adapt. Accordingly, only plyometrics will be able to let you access the next stage of muscular explosive power.

Plyometrics have, in fact, a proven long-term effect of injury prevention; but it should be underscored that these exercises have to be taken up very gradually and after a minimum level of muscle tone has been achieved. Because all their purpose is to maximize the amount of energy applied to the muscles, tendons and joints, it is easy to understand that they require slow and methodical implementation.

The assiduous martial artist will have no problems doing them, but still should increase the length of a dedicated plyometrics session gradually from 5 minutes on. He should also ensure that he is properly warmed up, and stop at the first sign of joint pain.

The beginner will have to develop regular muscle strength first by regular training and muscle-building exercises. Only after a few months, should he start carefully doing these drills, after warm-up, and under professional supervision.

A plyometric session should start with a ten minutes warm-up and light stretching. Then five minutes of plyometric exercises. No more. Then five minutes cool-down stretching. The “plyometrics” part of the session can then be increased by a weekly five more minutes, with caution and stopping at the first hint of joint pain. The cool down should become a full ten minutes. Altogether, a training session should never go over one hour, which means about forty net minutes of high energy plyos.

Training sessions should be two a week at the start, then three a week, but never more. Plyometrics should not be done day after day, and there always should be one day in between sessions.

It is recommended to practice on soft flooring, like grass or indoor sports halls. Never practice on hard floors like concrete. The wearing of running trainers, reducing impact shock, can be of big help.

Above all, the practicing artist is advised to use common sense and to listen to his body.

## Martial Arts and Plyometrics

From the introduction and all the above, it should now be clear to the reader why plyometrics are so important to the martial artist, and especially the kicker: Delivery of the maximum energy faster!

Not only will plyometrics increase the power of each kick, it will also allow for faster movement of body positioning, all the while contributing to the overall fitness and endurance. Some of the drills

have also a direct contribution to some kicks and moves. Flying kicks are obvious, but also hopping kicks, hip thrusts in penetrating kicks and much more.

The martial artist should include dedicated plyometrics training sessions in his routine; noticeable results will come quickly. He should do so in parallel with serious flexibility training.

Here is the place to stress an important point: Do train per fixed routines for at least one month but no more than three. The body needs time to rebuild itself as per the stimuli you are going to impose on it, and each drill works in its own specific way. In this day and age of instant gratification and minimal attention span, people tend to want too much variation to avoid “boredom”. Varying exercises from session to session is not conducive to optimum progress. For at least a month, but preferably three, you should drill the same exercises and force your body to make progress on them, working faster or jumping higher gradually. On the other hand, after three months, when you have made good progress, your body has become accustomed to the drills and the progress will become incrementally smaller and slower. Then, and only then, is the time to trick your body in having to make new efforts and adapt itself to new drills. This is an important rule; the author has seen too many promising fighters squandering their training time in sexy and ever-changing training sessions. Slow, steady and methodical takes the race!

Regarding the training sessions, the author is not a proponent of giving out lists of exercises as a training session. This work is aiming at experienced artists and athletes who will know how to organize their sessions and which exercises to choose from all presented in the book. A plyometric training session should be dedicated to plyometrics only and should not be over an hour. The drilling must be as intense as possible, with as little rest as possible between the drills, but of course, that is highly dependent on the stamina and level of fitness of the trainee. With progress, the artist will be able to cram more exercises gradually. Do not over-train though; more than one hour sessions would be counter-productive.

## **The Golden Rules of Plyometrics Training**

These rules are extremely important, both for your safety and for optimal progress. Write them down and keep them always in mind, or written on the wall.

1. ALWAYS warm-up and stretch before practice (Dynamic stretching for overall muscle heating and lengthening).
2. Start slowly and increase intensity gradually, both within the session and from session to session.
3. ALWAYS stretch after a session (Static stretching for flexibility maintenance).
4. Train with intent and minimize ground contact time. Concentrate on explosiveness, both physically and mentally.
5. Do not over-train. It would be detrimental to your progress. Time must be given to the muscles to rebuild themselves in the improved configuration. And remember that other aspects of training need attention. Two sessions a week is optimal, and, in any case, NEVER more than three.

6. Build strength in parallel with regular weight training drills. Remember that strength is a part of the explosiveness equation.
7. Drill fixed routines. Do the same exercises weekly and do not try to change and innovate all the time. Change routines after three months.

# Chapter 2: Ground Drills

Ground drills are the exercises that can be done without any special equipment. The drills are simple jumps, from and back to the ground. Even the drills looking like kicking maneuvers should be practiced by non-martial arts athletes. They are important, not only because they are effective, but also because they can be executed any time, any place. Do not practice on hard concrete floors though.

## Flying Butt Kick

From a standing position, slightly bend the knees and straighten down the arms. Jump up as high as possible while trying to kick your own butt with your heels. Try to keep your arms down and straight. Land while bending the knees. Once you are familiar with the move, do it in series, so that you jump up immediately from the bent-knees landing position.

### Key points:

Keep your arms down in order to avoid their “helping” your jump

Explode up with intent and really try to kick yourself

In series, minimize ground time



Jump high without taking up momentum downwards and kick yourself in the butt



Flying Butt kick

This will remind the trainee of another kicking drill for the high chambering of the front kick in which one heel-kicks his own backside before delivering the penetrating front kick. See the series below.

Kick your backside on your way to the regular Front Kick chamber: a great technical drill



## **Flying Double Knee Kick**

From a standing position, bend the knees and place your arms parallel to the floor as a target for the knee kicks. Explode up as high as possible and try to knee the palms. Try not to move the arms as a “help” to your jump, consider them as immovable targets. Once you are familiar with the move, start to work in series with no pauses in between.

## Key points:

Do not move the arms

Try to knee as high as possible

Minimize ground time

Try to envision the drill as a real double flying knee strike



Flying Knee Strike



In a variation of this drill in series, you can also progress gradually forward from jump to jump.

This is also a great drill for flying knee kicks.

## Flying Double Wide Knee Kick

This is a variation of the previous drill. In this variation, you simply jump with a wide double knee kick outside of your arms. You bend the torso between the arms and knees. Once you have mastered the move, do it in series with a pause in between the jumps. Once ready, start working plyometrically with minimum ground time between the jumps.

## Key Points:

Minimize ground time

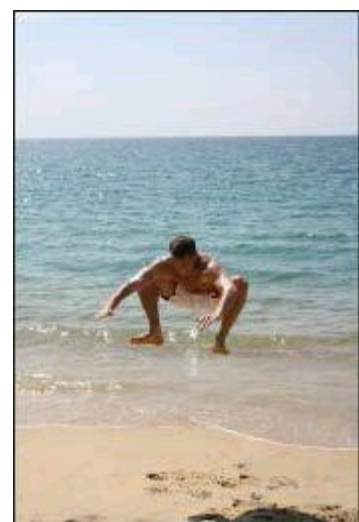
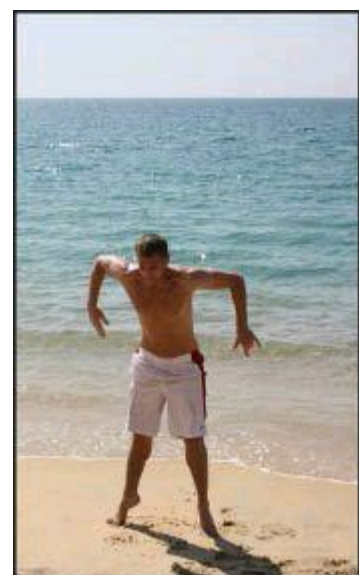
Make sure you do not flex the legs more than in photo 3; resist the temptation to start the jump from a crouching position

In this drill, concentrate on lifting the knees as high as possible outside the arms

A great drill for improved flying kicks



Wide double Knee Flying kick







## Flying Front Kick

This drill is a hybrid of the first two drills, with a karate twist. You jump off your two feet for a flying front kick, making sure that the heel of the non-kicking leg hits your butt. As you land, you repeat the kick with the same leg.

### Key points:

Kick off from both feet

When working in series, make sure you kick from the same leg each time, for the plyometric effect. Afterwards, do a full series with the other leg.

Kick high and concentrate on the kick.

Of course, minimize ground time

Flying Front Kicks in place, in series. Heel to butt







## Flying Twist

This is a variation of the Flying Double Knee Kick, important for regular and spinning flying Kicks. The principles are the same but you add a twist during the jump and land 180 degrees from starting position. This is a great drill, but make sure you minimize ground time.

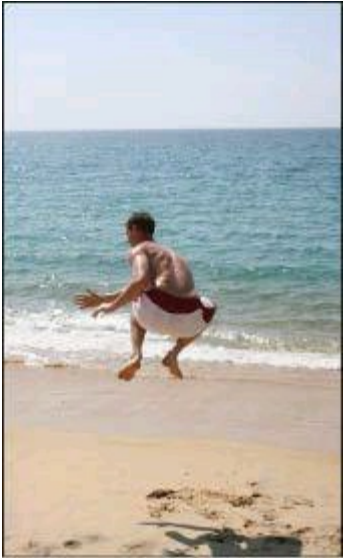
This is an important drill for better spinning kicks.

**Key points:**

Make sure you jump off both feet simultaneously.

Concentrate on lifting the knees high and minimizing ground time.

Flying Double Knee Kick with an airborne twist



A great drill for spinning kicks



## One-leg Fighting Stance Jump

Take a fighting stance on one knee, with the front leg bent at 90 degrees. Jump up as high as possible, pushing from both feet. Land in fighting stance, without knee/floor contact to avoid knee injury. Once you are familiar with the drill, repeat as fast as possible on one side. The series are always one-sided only. Afterwards, change sides and repeat.

These are all very similar to other well-known “ground” kicking drills from kneeling or one-kneed positions. Highly recommended.

### Key points:

Avoid at any cost landing on the knee, directly in start position. Serious injury may result.

Try to keep fighting stance all the way.

Concentrate on the explosion up from the one-kneed position.

Push off one foot for longest possible side jump

Jump up from one-kneed position





This starting position makes for a great regular kicking drill as shown below.

Front Kick from the one-knee position: a great drill





The “karate” version of the drill will be to add a side kick at the end of the side jump; each time. This is a very beneficial but challenging variation which I recommend warmly. Proceed gradually though.

## **Lateral Long Jump**

This is a very important exercise for speed of positioning.

Squat until you touch the ground with the tips of your fingers and explode into the longest possible lateral jump. Push off the outside leg while extending the inside leg. Stay low as you are trying to jump the longest possible distance, and not the highest jump. It is recommended to mark distance to strive for on the floor with 2 lines; with your progress, you will be able to gradually increase the distance between them.

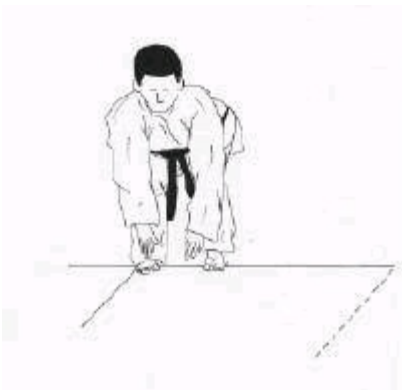
This drill needs to be practiced for length of jump first, before going to the multi response version (work in series).

### **Key points:**

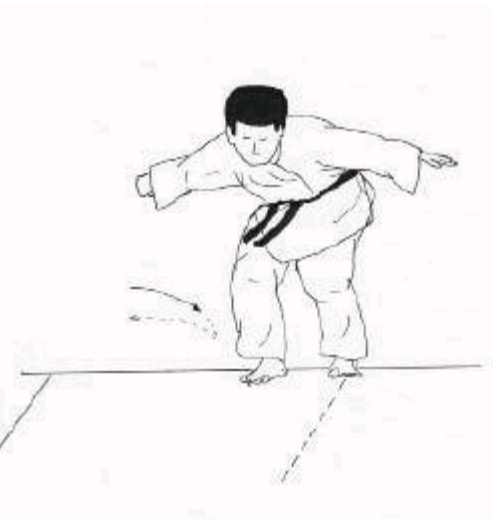
Touch floor and explode

Concentrate on distance, not height

Work in series back and forth, touching floor each time, but with no pause.







Touch floor before developing the side kick. Concentrate on good technique





Lateral long jump capped with a side kick. Alternate sides with no pause





One can see the similarity of execution with the extremely efficient “Hand-on-floor Side Kick” and is invited to refer to “The Essential Book of Martial Arts Kicks”.

When executing the drill, think about this kick



## Joined Legs Lateral Jump

In this drill, the focus must be on speed and not on height or distance. This is a typical multi-response drill, much used in many sport disciplines. It is recommended to use a marking on the floor or use a

prop as a line to be jumped over back and forth.

From one side of the line, you jump laterally with your legs together. As you land on the other side, you jump off immediately back. And so forth.

There are two ways to practice this drill, and you should do both alternatively. In the first version, you jump back and forth in place. In the second version, necessitating a longer line on the floor, you jump both sideways and a bit forward, so progressing gradually forwards.

### **Key points:**

This is a multi-response drill: Concentrate on speed and explosiveness; minimize ground time

Do not try to jump high

Do both versions: in place and going forwards





## **One-leg Butt Kick**

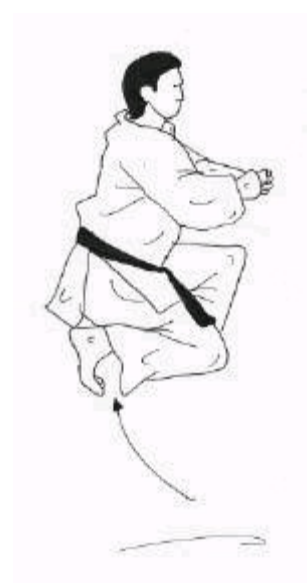
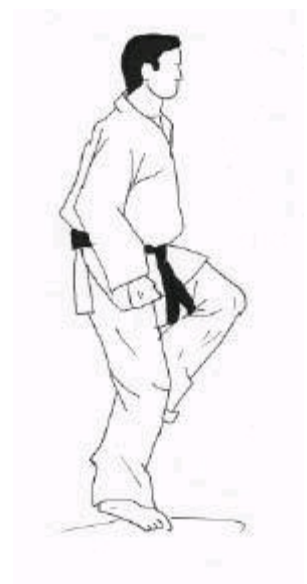
This is a more challenging version of the Flying Double Butt Kick: The whole drill is executed on one leg! Although it is harder on the muscles, it still has to be done as fast as possible in true plyometric fashion. Do not start this drill before you have fully mastered and have had a long practice of the Flying Double Butt Kick.

Stand on one leg with the lifted knee in front. Jump off the other leg and use it to kick your own butt. Once you have mastered the exercise, do it in series with minimum ground time. This is a punishing version, very difficult, but extremely beneficial to your explosiveness.

### Key points:

- Drill single-response thoroughly before working in series
- Jump as high as possible
- Minimize ground time
- When working in series (multi-response), use the same leg. Then do a series with the other leg.

Stand on one leg and kick your own butt repeatedly as fast as possible





The challenging one-leg butt kick



# Hop Into Jumps

According to the plyometrics theory, this is a purer way to execute the jumps described before, and therefore a more productive exercise in terms of results. You simply do a small hop just before the higher jump and enjoy the fruits of the eccentric/concentric contraction couple. This method is highly recommended once you have mastered the jumps as described before. This execution requires more coordination, as you will have to remember to always hop before the jump, even when you work in series. So it will be: hop/jump/hop/jump/...

We shall illustrate the technique for the Flying Butt Kick but it is valid for all other jumps, like the Flying Double Knee Kick, Flying Wide Double Knee Kick or Flying Front Kick.

The execution is pretty simple: hop and immediately execute the Flying butt Kick. As you land, immediately hop forward for another jump.

## Key points:

- This is pure plyometrics. Work fast with no pause at all.
- Explode when the hop lands.



- You can mark the floor for a fixed (and becoming longer) hop

Jump explosively back and forth over the line. This is the version with gradual forward progression



Small hop, big jump. Minimize ground time



Hop then double flying knee kick



An interesting variation is the hop into a flying kick. Presented here is hopping into a Flying Front Kick. The principles are the same and you should strive to work in series, multi-response.

Small hop, then jump up in flying front kick. Repeat





## One-leg lateral Jump

This is obviously the more challenging one-legged variation of the classic lateral jumps. Standing on one leg you jump laterally in series, as fast as possible, but while jumping each time as high as possible. If not, it would just be the lateral hopping exercise presented just after this. The jump is on the side of the standing leg. You can mark the floor as a focusing help. This is a very difficult exercise. Progress gradually.

### Key points:

- This is a difficult exercise; drill thoroughly single response before going to series
- When working in series, do concentrate on one leg. Then drill the other leg in another series.
- The purpose of the exercise is height: concentrate on jumping high, then fast.

On one leg, jump high and sideways. Repeat





A greave drill to improve side kick positioning



**Flying Front Scissor Kicks in Series**

This is an extremely beneficial drill that should be practiced by the Martial Artist at every session. Not only has it many explosiveness-building properties, but it is also a kicking drill in itself. The kick practiced here is a versatile and very effective kick that should be kept in store by every kicking artist for the right opportunity (like in Lyoto Machida's UFC 129 fight against Randy Couture).

The drill is in fact simply the execution of the double flying front scissor kick in series with no rest in between. This very important kick, called Nidan Geri in Japanese Karate, is fast and difficult to block. It is a regular grounded rear-leg penetrating front kick, immediately followed by a flying front kick from the other leg; the switch between the kicking legs is done in a flying scissor way as the flying kick chamber starts as the regular kick recoil is still underway. There are many variations to the kick itself based on whether, among others, the first kick is a feint or a full kick, or whether the jump is high or long. But the principle stays the same, and so does the drill.

From a relatively high posture, execute a full-power rear-leg penetrating front kick. As you chamber the kick back, jump off your standing foot for a flying front kick. The leg lifts in flying front kick chamber as the other leg is still recoiling from the regular grounded front kick. This causes an airborne scissor-move. After delivering the flying front kick, you chamber it back as you land on the first kicking foot. As soon as you land with the second kicking leg in front, you repeat the exercise; same side. Once you have mastered the drill, concentrate on minimizing ground time during the series. Try to do at least series of 10 kicks; then switch legs and execute the drill on the other side.

### Key points:

- Master the technique first, in single response. Concentrate then on the kicking.
- Practice in place first; then, use a long free field to execute while kicking forward.
- Always remember that the plyometric purpose is to execute in series without pause.

Standing Kick, Scissor, Flying Kick. In series, fast





## Lateral Hopping

This is the easier one-legged lateral drill, but still very important for explosive muscle building. You just hop back and forth over a marked line on the floor. You can do this in place or going gradually forward. The key to this drill will not be height, but speed. There must be no pause whatsoever between the hops.

A kicking variation of this drill is presented at right. It is interesting to alternate between those two drill types for similar but synergistic results; the kicking aspect gives it some more student interest. This will be a simple hopping side kick series: Hop sideways while kicking, and repeat. The purpose of the drill being the lateral hop, it is recommended to deliver low side kicks, in order to enable the trainee to concentrate on speed and hopping, and not the kicking. But once proficient, there is no reason why the trainee could not execute with higher kicks.

Stand on one leg, in typical side kick chamber. Hop sideways while delivering the (low) side kick. Ideally, the jumping foot should touch the floor simultaneously with the full kick extension. Chamber back and repeat immediately.

### Key points:

- Concentrate on minimizing ground time. Work as fast as possible.
- Concentrate on one leg until exhausted; then switch to series with the other leg.

Hop back and forth over line, as fast as possible





Lateral Hopping Low Side Kick in series





**Key points:**

- Concentrate on speed of hopping, not the kick
- Repeat for a minimum of 20 hops before switching legs
- This is a relatively low impact exercise: Repeat switching sides until legs hurt. No pain, no gain!

The kick is delivered during the airborne phase



The simple lateral hopping—multi-response in the same direction—is by itself a great muscle-building drill. You need room for its execution, and a beach would provide you for it with the added benefit of the extra effort needed in the sand. Just make sure that you practice the drill with both versions per direction of the jumps: jumping in the direction of the lifted leg and jumping in the direction of the standing leg!

The simple basic one-legged side hop: jump in the direction of the standing leg



The simple basic one-legged side hop: jump in the direction of the lifted leg



## **Push-up to high jumps**

This is an old classic, and like all classics, a great drill proven by time. One could argue that the push-up does not do much for the kicker, but it does improve stamina and it forces the trainee to take the right starting position for the drill. All in all, this is a very well rounded drill, and a must-practice.

From a standing position, semi-squat and place your hands on the floor. Immediately throw your legs back to a “plank pose”. Do a fast straight-back push up, before throwing back your feet between your hands. From this position, jump up as high as possible while stretching your hands up. Land in semi-squat and repeat. Of course, there is no pause in between the phases, and the execution is one smooth move from beginning to end.

When proficient, the artist is encouraged to transform the throwing back of his feet into a Double Drop Back Kick. The drill could be executed in front of a heavy bag to be kicked as hard as possible. Remember though that the heart of the drill is the jump up.

### Key points:

- Concentrate on no-pause between the end of the push-up and the high jump! It is basically a plyometric “hop and jump”.
- Land on slightly bent knees

Classical push-up to high jump. A must for the serious artist







The very powerful Double Drop Back Kick



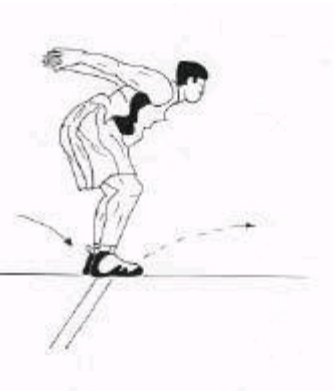
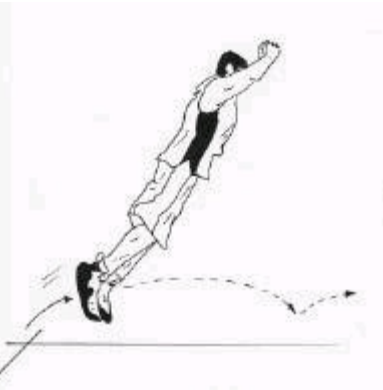
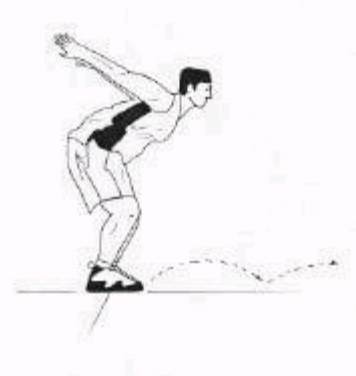
## Long Jumps

This is a very efficient and simple drill but it requires space to execute. You simply jump as far as possible with joined legs, in series. This is a long jump, not a high jump. It is important to concentrate on distance and minimize the pause of ground time. A series of long jumps requires obviously a free field long enough, as ten jumps would be the minimal series length. Do not execute on concrete floors!

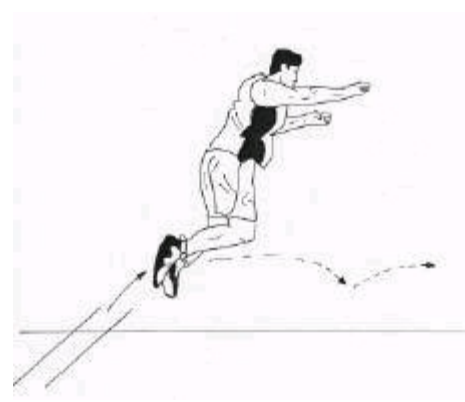
### Key points:

- As mentioned: Length, not height
- Work in series without rest. The muscle-building effect comes from jumping off the “reception crouch” of the previous jump.
- “Glue” legs together

Long Jumps in series, multi-response







Longest possible jump, legs together



Typical phases of the Long Jump Drill





Executing the Long Jump drill in sand makes it more challenging



Even more challenging is to do the multi-response long jump in the sand and one-legged





## Frog Long Jumps

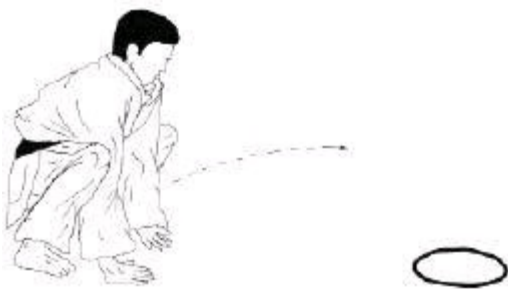
Here comes a great “frog walk” exercise that has long been a favorite of children’s martial arts classes. This is a fantastic plyometric drill if executed in series and to its maximum.

As illustrated below, you start from the “frog” position: kneeling with your hands on the floor and elbows between the knees. You then jump as far as possible and land in the same frog position. This is a long jump, not high! Repeat immediately, with minimal ground time, until the muscles are exhausted.

### Key Points:

- Minimize ground time
- Jump long and close to the floor; do not try to jump high
- Land on the hands first, before the feet land

Playful but effective Frog Hops





## Split jumps

Here comes a classic, the importance of which cannot be emphasized enough. This is a great explosive muscles-builder to be practiced regularly. It must be noted that the drill must be executed after a good warm-up, as there are some dangers of injury. In the same logic, it is a drill that must be approached gradually by the beginner or even the experienced artist that has abandoned it for some time.

You start in deep split position: the front leg is bent at 90 degrees and the back leg spread back and standing on the toes. The knee does not touch the floor and you face forward. Arms are locked in guard or hikite position. Jump up, directly from the start position, as high as possible and switch the legs airborne. Land directly in the same starting position, but with opposite leg forward. Repeat.

### Key points:

- Warm up before the drill, including stretching.
- Master the exercise gradually and carefully: Start single response and from a higher starting position
- Once fully mastered, execute the exercise while concentrating on minimal pause between the jumps.

The classic split jumps



Deep low front stance, jump up and switch sides





This drill can be extended into an important “Switch and kick” drill that will be presented in Chapter 4. The photos below illustrate the exercise.

Make sure you start and finish in guard. In this version, reach up as you try to jump as high as possible



The full Split Jump-and-front-kick-over-chair Drill.





## **Abdominal Legs Throws**

Now comes a classic dojo drill with partner. Unbeknownst to the trainees, it is a full plyometric drill, fantastic for the abdominals, the hip belt and the upper legs. Lying on your back, you catch your standing partner's ankles, as shown below. Using your abdominals, you lift your straight legs to 90 degrees. Your partner will forcefully throw your legs back towards the floor and you will brake the fall a few inches from the floor to lift the legs back up. Your partner will immediately throw the legs back down. Once you are familiar with the drill, your partner should use the maximum amount of force that will allow you to do the exercise and you shall strive to minimize the amount of time at braking point near the floor.

**Key points:**

- Legs straight and together at all times
- Back stays on the floor
- Stop as close to the floor as possible and lift the legs back as soon as possible

Your partner throws your legs down, you lift them back a.s.a.p.



There is a very well-known variation of the drill in which your partner throws your legs down diagonally to your side for extra laterals work. You can do this variation by alternating sides or concentrating on one side before switching.

## Pushed Lunges

Here comes a truly plyometric partner drill. It is again a lunge, but, this time, the extra energy for plyometrics does not come from your jumping up but from a partner pushing you. As illustrated in the first sequence below, your partner pushes you forward and you land as far as possible in a lunge as low as possible. Your partner's push must be powerful but not jerky, and you must let yourself be pushed. The drill could stop at this stage with your going back fast and smoothly to start position for a repeat. But to make it more of a kicking drill and make full use of the plyometric aspect, you should come back to standing by executing a front-leg front kick directly from the low lunge position. Then, go back to starting position and repeat with the same leg until exhausted. Then, switch legs. The kick immediately following the low lunge reception from the push will maximize the plyometrics effect of the drill. This is a very efficient drill.

### Key points:

- Your partner must push you powerfully but smoothly and not unexpectedly
- Let yourself relax when pushed
- Land as far and as low as possible; make use of the energy of the push
- Minimize ground time in lunge position, whether you kick or not

Powerful push into a low lunge





The “little brother” of this drill is the lateral lunge push presented below. The methodology and principles stay the same; in the extended version, you will deliver a front-leg side kick from the deep side lunge position.

The lateral pushed lunge drill



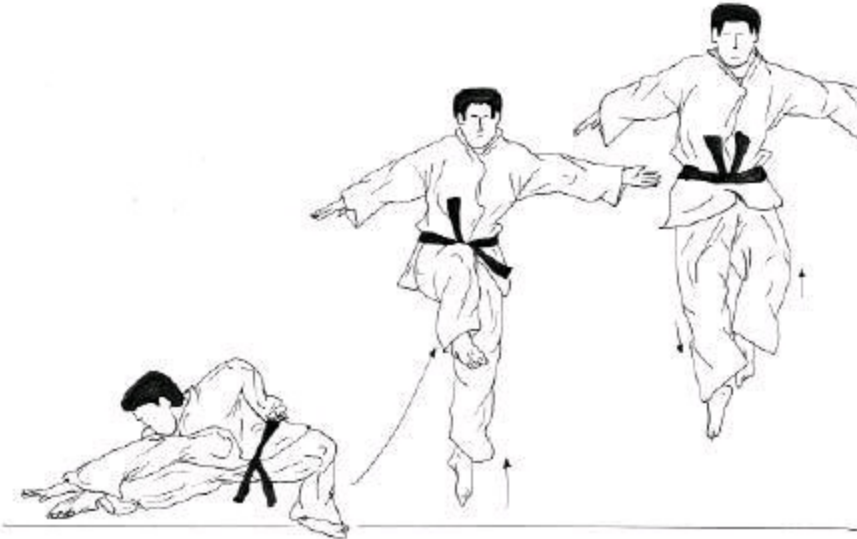


## Kung Fu Jumps

Last, but certainly not least, comes a drill introduced here to remind the readers that nothing is really new. Many very old traditional arts included many exercises with plyometric principles, the importance of which had been proven by real world experience. In old Kung Fu styles there were drills like box jumping, or hopping out of a hole that are reminiscent of some of our modern plyos. In fact, many of the “positions” drills or of the traditional forms of the hard styles of Kung Fu are definitely muscle building exercises with plyometrics undertones. Kicking in series and very low positions switching are great drills.

We present here a basic drill starting from a very low position typical of Chinese Arts (Pu Bu). As illustrated below you jump off the bent leg and switch legs airborne in a double knee strike. You land in the low crouched position, to repeat on the other side. Once you are familiar with the drill, practice it multi response! This is a very complete and strenuous exercise.

Old traditional exercises are not necessarily outmoded



# Chapter 3: Box Drills

Those drills require a “box” or high step, basically something you can step or jump on or from. These are the first “new and spectacular” plyometrics drills discovered by Western trainers in the Sixties, and they are truly the bread-and-butter of plyometrics training. The generic word “box” is there to underline that many everyday or specific objects can be used. The height of the box is dependent on the type of exercise or the proficiency of the trainee. It is sometimes beneficial to gradually increase the height of the box. An aerobic step or a stack of those is a good solution to the “box” problem: they are stable and stackable to the desired height. But anything goes: It is the drill that counts...

## On-Box Jump In Series

This is the easiest and most recognizable of the box drills. It can even be done as part of your jogging routine nearly anywhere: on a public bench, a high curb, a low wall...

The classic and unavoidable way to practice the drill is the small legs-together hop onto the box where you concentrate not on height but on speed of execution: back and forth, fast and with minimal ground time. Do not try to jump too high or make huge arms movements to succeed jumping up: jump up and down fast with arms locked and rebound on the floor with no pause.

### Key points:

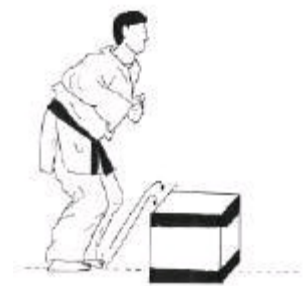
Concentrate on speed and minimum ground time. Do not try to set the height too high.

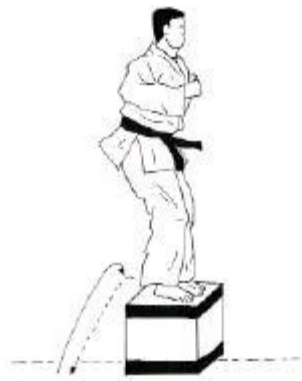
When mastered, increase height very slowly and gradually to keep exercise challenging.

Lock your arms (in guard) to avoid “helping” the jump.

Legs together. Make sure you do not even slightly emphasize one leg over the other.

Hop on, hop off, as fast as possible





The other way to do the drill is to increase gradually the height of the box. You still concentrate on speed and no-pause, but the effort to jump up becomes significant. This exercise cannot be executed as fast as the classic version. This is the reason that the high version should be practiced as an additional drill, but not instead of the classic version, the benefits of which are very important to the kicking artist (in spite of the fact that it looks easier and simpler). As an order of magnitude, the starting height of the “box” for this exercise should be your knee.

### **Key points:**

Height being the point, you can help yourself with hand moves

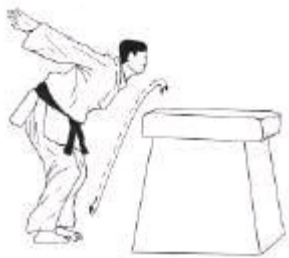
Make sure you stand up on the box with straightened legs before you jump back down

Bend the knees when you land

Work with rhythm and gradually reduce the pauses in between jumps

Progress gradually: this is a challenging exercise for the joints

Jump up for height then immediately back down



For all variations, make sure you hop on and off as quickly as possible



There is a kicking variation of the basic drill that emphasizes the plyometric angle. From the regular standing position in front of the box, deliver a front kick while using the box as a prop to force a proper high-knee chamber. Deliver the kick as an explosive power kick from the starting position and chamber back. As the foot lands back on the floor, you immediately jump up from both feet onto the box, as per the classic drill. Hop back down and immediately deliver a front kick, same leg as before. Chamber back, land foot and jump up onto the box. And repeat...

**Key points:**

- Drill one leg at a time; do not alternate kicks in one series
- Progress gradually and reduce ground time as you become proficient
- The kick needs to be powerful but start from a relaxed standing position
- Jump up from both legs as soon as the kicking foot reaches the floor
- Front Kick over box, then jump up and back down







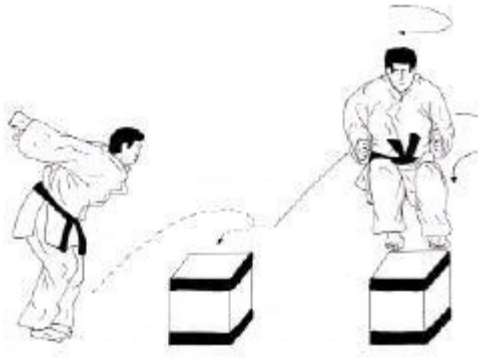


Deliver a full-powered front kick before hopping in order to benefit from the drill

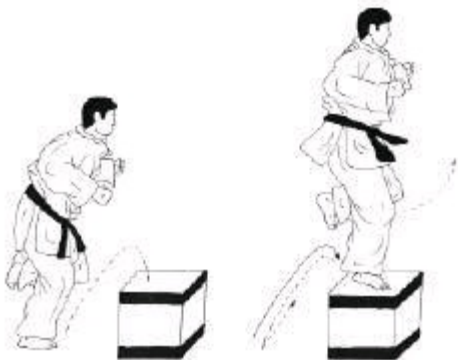


Once you are very proficient in the basic drills, you can start to do the basic variations as an additional drill, spicing the routine a bit. The two basic variations are: twisting airborne and one-legged. The principles stay the same and we are not going to write too much about it. Just refer to the illustrations below. Remember that the drills can be executed fast, or high and with kicking involved; all previous key points stay valid and should be referred to.

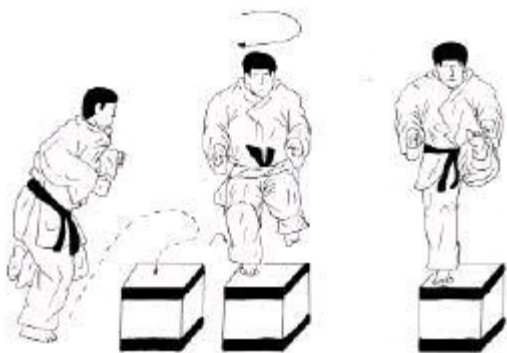
On-box twist jump



On-box one-legged jump; you can add a kick too



On-box one-legged twist jump; illustrated with an additional kick



Here is probably the right place to say a word about ankle weights and weight vests. Adding weight when doing plyometrics will obviously increase performance. But it should be clear from all the cautionary words in the introduction that this is only for very well-conditioned young athletes, and after a very gradual learning curve. The author does not recommend the use of ankle weights or weight vests for jumping and bounding plyometrics, but for exceptional athletes. Those training aids are a great help though in regular (non-plyometric) exercises.

## Box-on and Up

This is the classic and extremely beneficial drill in which you use the box as a springboard for a high jump. This is not a multi-response drill in which you repeat the exercise as fast as possible. Instead of minimizing ground time, you minimize “box-time”. Starting from a semi-squat position, you jump onto

the box with both feet, receiving yourself on bent knees. As soon as the feet touch the box, you strive to jump up, off the box, as high as possible. When you land, turn around and repeat, but there is no need to run back: Just reposition yourself in semi-squat and repeat. Do not practice on hard or concrete floors.

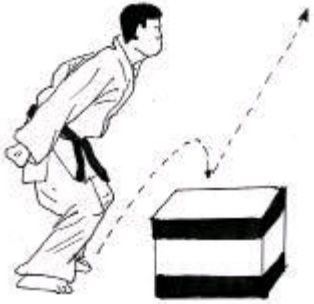
### **Key points:**

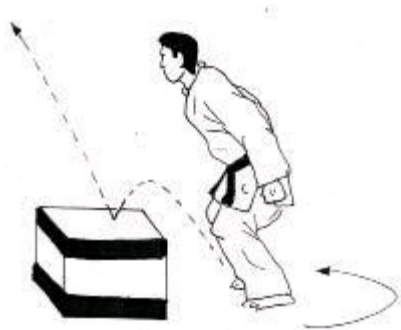
Concentrate on jumping as high as possible

No pause on the box between the two jumps

Only once mastered should you increase box height, and not to a point where the first jump is a challenge in itself.

Jump on the box and then as high as possible from the box





## Box-off and Up

Before we start with off-box drills, a word of caution: These exercises are harder on the joints and require a gradual approach. Proceed carefully, and never practice on hard floors.

From the edge of the box, hop off with legs together. Bend the knees when landing and jump up immediately from the semi-squat as high as possible. Again, this is not a multi-response drill. Hop down and immediately up. Then climb back on the box to repeat.

### Key points:

Concentrate on minimum ground time after the hop-off

Jump as high as possible; try to improve gradually

Legs together at all times

Start the drill carefully and gradually from a low box. Increase height of box with proficiency.

Jump off the box into a crouch and then as high as possible



The drill not being multi-response, you can cap the drill with a kick, immediately as you land from the jump. A back kick, for example, is shown below.

Land and immediately execute a back kick over the box



## Box-off and Long

This exercise is very similar to the previous one; you just jump long instead of high. You simply hop off the box and land with bent knees. From this crouching position you immediately jump into the longest possible jump. Then, you climb back on the box and repeat.

### Key points:

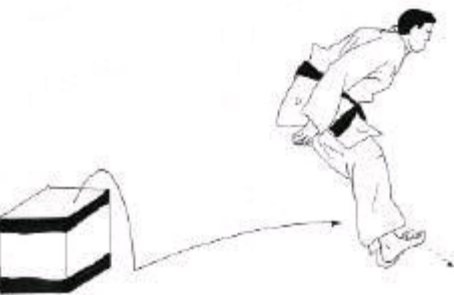
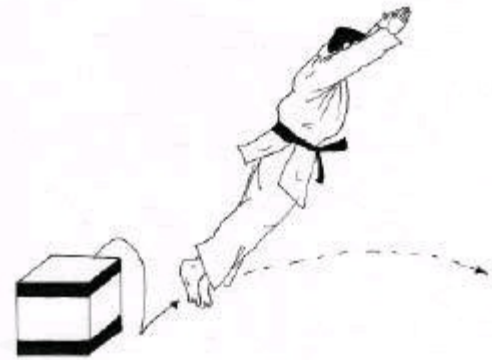
Concentrate on minimizing the pause between the hop-off and the long jump; try to use the momentum.

The second jump is as long as possible; mark distance if you can

Hop-off drills are hard on the joints; proceed gradually and carefully.

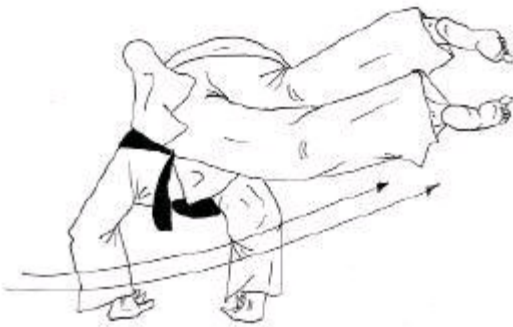
Jump down from the box and then immediately as far as possible





Just like for the previous exercise, you can cap the drill with a kick executed immediately after landing from the long jump. It is beneficial to do so with kicks starting close to the ground, for example the Drop Twin Roundhouse Kick, as presented at right.

Upon landing, cap the drill with kicks from crouched position like the Drop Twin Roundhouse



## Box Cross-over Jump

This is a very important multi-response exercise to be practiced often and always as fast as possible. With one foot sideways on the box, you simply jump up and laterally over the box. You land with the other foot sideways on the box, and jump up immediately back. Minimizing ground time is the key to plyometric development here.

### Key points:

This is a fully lateral move

Concentrate on minimizing the pause in between jumps

You can slowly increase height of the box, but only when the drill is perfectly mastered at given



height and never at the cost of speed

Hop back and forth and minimize ground time





Once you have mastered the drill, try to increase height of the jump, while keeping the rhythm.

When proficient, jump higher while keeping switching fast between jumps

Great drill for a fast side-step into kick



There are kicking variations of this drill that are worth mentioning. The first, presented below, simply adds a front kick during the climb up the box. It is a great exercise but care must be taken to keep a smooth rhythm with no pauses. The drill must be approached gradually in order to ensure both good kicking technique and minimum ground time.

Deliver a front kick while climbing up laterally, hop down while switching legs





The second kicking variation of the drill consists in adding a side kick while climbing up. The principle is the same as for the front kick version, but it is a more difficult technique to execute. Once mastered, do practice with smooth rhythm while striving to reduce ground time.

Climb up laterally while chambering the side kick; kick and chamber back; hop down while switching legs





## Box Switch Jumps

This is a very easy exercise, more like a box-aided jog, but important to do. It is, for example, a great drill to do as a warm-up. The drill will only be beneficial if it is done multi-response, as fast as possible. With one leg touching the upper edge of your box, you hop and switch legs as fast as possible and repeat. Continue until muscle exhaustion.

### Key points:

- Concentrate on speed. Try to literally stay airborne.
- Keep hopping until you feel muscle strain

Switch legs as fast as you can





An easy version of the drill simply uses the first step of a staircase; it is as beneficial if execute as fast as possible and can be done during your jogging routine.

## **Box Lateral Step-up**

This drill is not a jump but a lateral stepping-up exercise, great for the knee, the abductors and the adductors which play such an important role in kicking. The drill looks easy, but it is extremely challenging for the knee joint; it needs to be approached carefully and very gradually. Start with a low step and slowly; stop at the earliest joint pain. Once you become proficient though, it is an important drill that must be executed in a multi-response fashion. I would not recommend its execution with additional weight, but for the most experienced athletes.

As illustrated below, you stand with a box on your left and place your crossing right foot on it. Lift yourself up straight and let your left foot touch the top of the box before going back down in place. Repeat until exhausted and switch legs.

**Key points:**

- Once proficient minimize both box-time and ground-time; keep hopping up and down smoothly
- Keep upper body straight, hands in guard
- Drill with caution

Climb up and down laterally, crossed leg







# Chapter 4: Hurdles

“Hurdles” is a quite generic term for basically anything that is not a box. We shall try to give another example each time, but the meaning is an exercise prop that is too narrow or too low to be a box. The box would not be good for the specific exercise, although the plyometrics principle stays the same; therefore a real hurdle, or a belt, or a tire, or traffic cones, or a punching bag will be used. These drills are based on exercises already described but are always multi-response, and the specific hurdle is needed to allow for fast repetitions of the jumps.

## Successive Height Jumps

This is a close relative of the flying double knee kick, with a dash of on-box jump. This is simply a succession of forward high jumps over a series of hurdles. The illustrations show the use of real hurdles as a prop, but anything similar goes: table legs, ropes, belts, exercise benches...

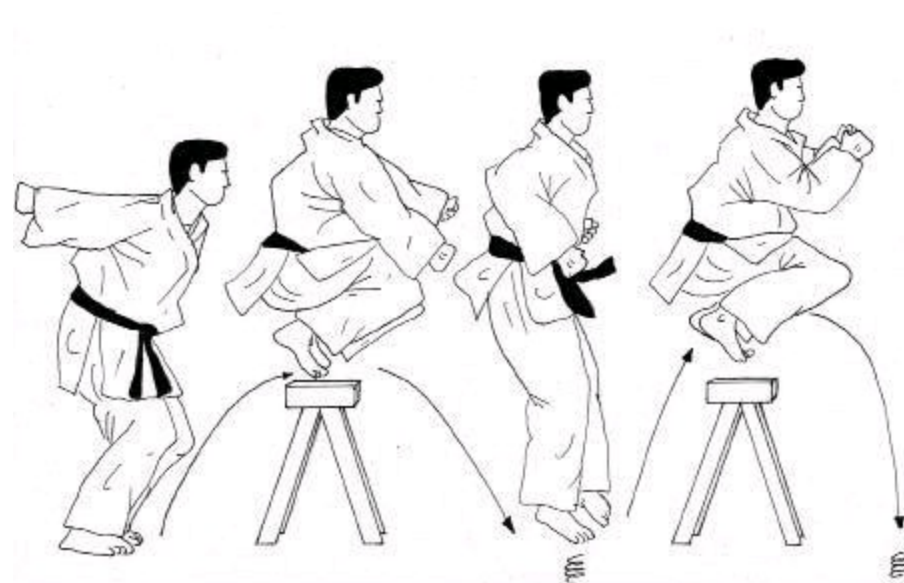
It is often done in martial arts classes with partners holding their gi belts between themselves at the appropriate height. When the practitioner clears at least three of these belts in succession and back, he replaces one of the belt holders to allow him to do the drill, and so it goes... This is a good way to build dojo camaraderie.

The drill must be first mastered at a reasonable height and single response. Then, to be beneficial, it must be practiced in series with no pause for at least two, but preferably three hurdles. And back! The height and number of jumps must be then increased very gradually. Starting height should be at mid-thigh.

Key points:

- Master the drill carefully first
- Concentrate on minimizing ground time first. Not height.
- A series should be at least 4 bounds (2 hurdles and back)
- Legs together at all times

Jump over successive hurdles in sequence, legs together, no pause



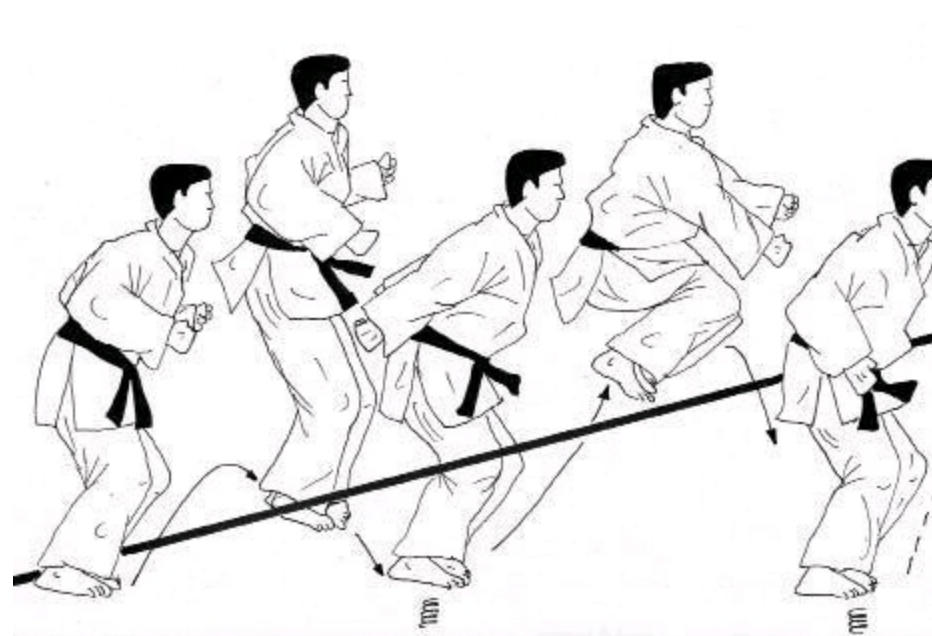
## Incremental Height Jumps

This important drill could be considered a variation of the lateral hopping exercise, made incrementally more difficult. The prop needed is a rope or an elastic band, or belts tied together, long enough to allow for at least three jumps. The rope is fixed from the floor diagonally up to a pole (or held by a partner) at mid-sternum level. A longer rope and a more gradual the slope will allow for more jumps. Starting at the ground extremity of the rope, you hop laterally and slightly forward over the rope, legs together. As you progress forward, the height increases, and so the difficulty of the exercise. Once the drill mastered, concentrate on minimal ground time as you proceed forward.

### Key points:

- Once the drill is mastered, concentrate on minimum pausing between the jumps
- Rope set up should allow for a minimum of three jumps. The more and the more gradual, the better.
- Legs together at all times

Hop laterally and forward over a rope of increasing height



## Lateral Height Jumps in Series

This is again a variation of the lateral hops and jumps. The purpose of the props here is to ensure a series of jumps with no pause and in the same direction. This is a different drill than the hop-back-and-forth exercises: Here you keep jumping in the same direction, using the same leg and core muscles.

The props used in the illustrations are traffic cones, but they can be anything that is high enough for the purpose. Remember that lateral jumps are generally lower in height than front ones. Traffic cones are about the best height, but the following can also be used: stacks of 2 to 3 old tires, ropes and belts, low hurdles, narrow boxes, lying heavy bags, exercise benches and my favorite: partners sitting on the floor... Use your imagination.

Just make sure you start with about knee-height, and with enough props for a series of at least 4 jumps.

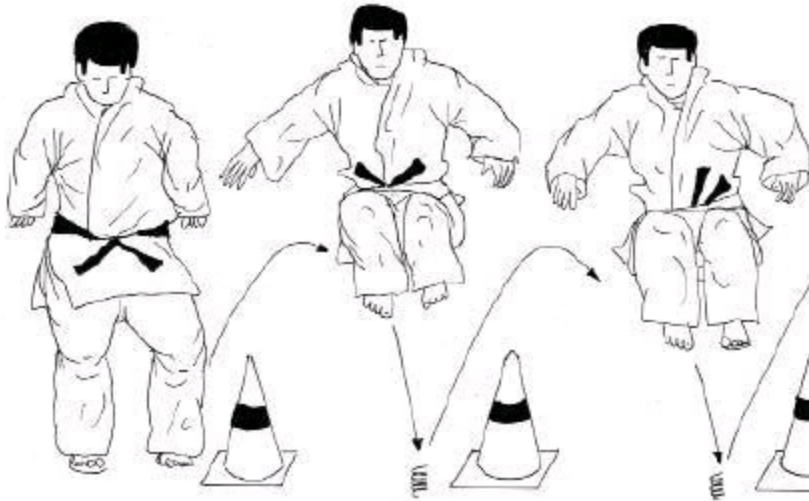
Legs together, jump laterally over a cone, then immediately another, and another... All in the same direction and with no pause. Repeat, and then practice on the other side.

This is a great drill for the improvement of the Flying Side Kick for example.

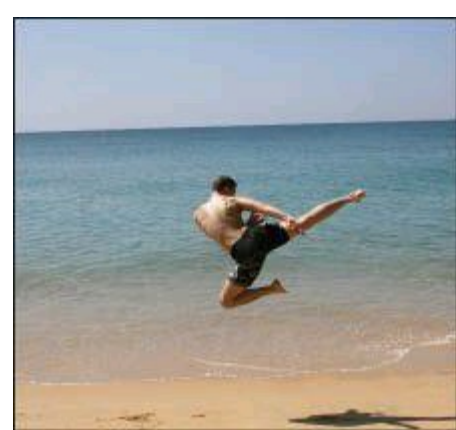
### Key points:

- Concentrate on minimizing ground time (Make sure props are placed adequately)
- Make sure you are set up for at least four jumps
- Repeat drill several time in the same direction before switching sides
- Legs together
- Height and distance between hurdles can be increased gradually, but never on account of the no-pause aspect

Hop laterally over at least 4 successive hurdles with no pause. Repeat



The Flying Side Kick



## Speed Side Hops Over a Bag

This is a simple variation of the lateral hopping drill. The only difference is that the hop will have to be slightly higher and slightly wider because of the hurdle. But this drill is also totally about speed, not height or distance. It is also a drill in place, with no going forward. This is a great drill if you concentrate on the multi-response aspect, and the size of the bag (or any other prop) allows for variations in execution. A stack of old tires can also be used, starting with one, and then gradually stacking a second and a third as progress is achieved. Or a stack of aerobic steps; use your imagination and the equipment around you. You can also “use” a partner, prone or on hands and knees.

Remember: This is all about speed, hopping back and forth fast and with no pause.

### Key points:

- Speed, as mentioned

- Concentrate on minimizing ground time.
- No higher or wider hurdle before the drill is mastered

Hop back and forth over the bag with no pause whatsoever





## Chair-on Kicks

A chair is basically a high box with a back. It is also a ubiquitous prop, found virtually everywhere. The seat of the chair will give a plyometric “box” start to the drill; the “back” part can be used for forcing a high and challenging chamber of a kick. We shall present a few examples of drills synergistically mixing plyometrics and kicking exercises, but the practitioner is invited to devise his own as per his training dictates. It should be noted, again, that these drills must be approached slowly and gradually: The high stepping can stress untrained joints; these exercises are for well-trained artists in good shape and regularly doing basic plyometric training.

Caution: Please make sure the chairs used are sturdy, stable and appropriate for the exercise.

The step-up front kick is a classic and very beneficial exercise. As illustrated below, it is best executed with two chairs: one for the step-up, and one to ensure a high knee chamber. From a standing position, place one foot on the chair and immediately step up while lifting the other leg into front kick chamber. Kick, chamber back and step down with both legs. Repeat immediately, with the same leg. Once the muscles are exhausted, switch sides and repeat while kicking with the other leg.

### Key points:

- You do not have to “run” in between kicks but once the drill starts, it must be executed in a smooth and uninterrupted way.
- Always go back to starting position with both feet on the ground
- You can start and familiarize yourself with the drill by stepping up lower (aerobic step for example) and with no second chair (the back of which forces you to lift the knee high and early in the kick!).

Step up and front kick in one smooth move





The step-up roundhouse is a more challenging drill, but it will need only one chair as the back of the step-on chair will serve the chambering aid purpose. The principle of the drill is the same as for the previous front kick: work smoothly and uninterruptedly from standing position back to standing position, as illustrated below. It is recommended, when stepping on, to place the foot turned outwards, in order to facilitate the pivot of the roundhouse kick (as clearly illustrated in step 2).

The principles and key points of the drill are the same as for the Step-up Front Kick drill.

Other kicks can be delivered as per this set up: side kicks, back kicks, crescent kicks and more. This is left to the reader's discretion. But one should remember that the purpose is not to make the drills more complex and sophisticated, but to implement the plyometric principles into kicking drills; the kicks in themselves are, from this point of view, less important.

Step up with foot turned out and deliver roundhouse kick smoothly over the back of the chair







## Split Jump-and-kick Over Chair Hurdle

This is an extension of the previously described “Split Jumps” drill, an extremely important exercise in itself. It is now combined smoothly and with no pause with a kick. The simple version of the drill only requires to kick after the split jump, and doing so with no pause and with a chair to enforce high chambering and good technique. In the more challenging version of the drill, the kick will be delivered after a step-up move onto the chair.

A picture being worth a thousand words, please refer to illustrations 1 to 6 for the Front Kick variation of the basic drill. After the split jump, as soon as landing and with no pause, you execute a front kick over the chair in front of you. You then chamber back and land the foot backwards, assuming the starting split position from which the kick initiated. You then execute a new split jump and repeat the kick on the other side.

### Key points:

Concentrate on executing smoothly and with no pause. No need to run, but it must be done seamlessly.

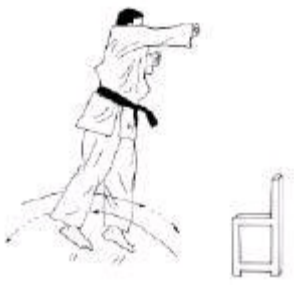
Adapt the height of the chair to your proficiency.

The drill calls for kicking alternately with both legs.

Advanced artists can execute with ankle weights.

Split jumps with immediate front kick over a chair



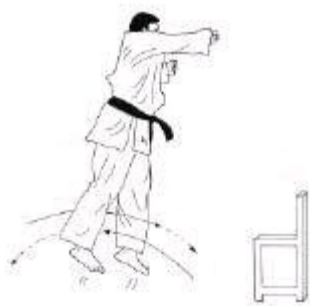


The drill can be executed virtually with any kick and the artist is encouraged to develop his own exercises as per his style and physiology. Two more simple examples are presented: Let your imagination do the rest. Illustrations below show a basic side kick drill and a spin-back hook kick into the same drill. The key points and principles stay the same as for the front kick variation presented at the beginning.

Split jumps into full side kick over front chair



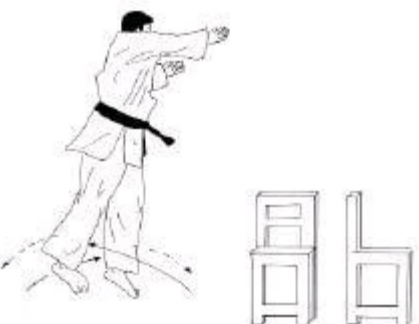
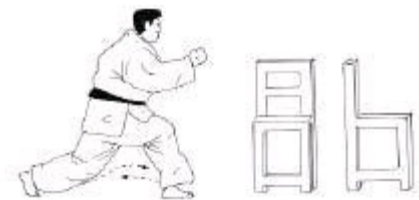
Split jumps into spin-back hook kick over chair





In the more challenging full version of the drill, you will split jump then step-up onto the chair before kicking. It is basically two previously described exercises bundled together in series. This is challenging but extremely efficient. The Front Kick version of the drill, presented on this page, necessitates two chairs: one for the step-up and the other as a hurdle for a high chamber. Immediately after the split jump, smoothly and from very low, you step up with one foot onto the chair and deliver smoothly a front kick over the second chair. Chamber back and land the kicking foot back onto the ground. You then step down with the other foot directly into low split (guard) position. From there you will execute a new split jump/step-up/front kick, this time on the other side! Keep kicking and switching sides smoothly and uninterruptedly.

Split jump low, step on the chair, front kick and back down into low split position to repeat



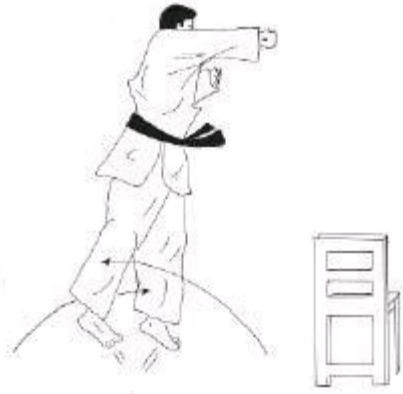


This shows a simple Side Kick version using only one chair. (One can easily imagine a side kick forward version with a 90 degrees pivot on the chair, but that would necessitate two chairs like the front kick. Use your imagination for more variations). Refer to the illustrations; the principles are the same.

### Key points:

- Minimize ground time after the split jump; step up immediately and in one smooth move.
- Step down just as you have stepped up and lower “standing” leg directly deeply backwards into low split position.
- No need for extra speed but concentrate on smooth uninterrupted execution and repetition. Alternate sides.

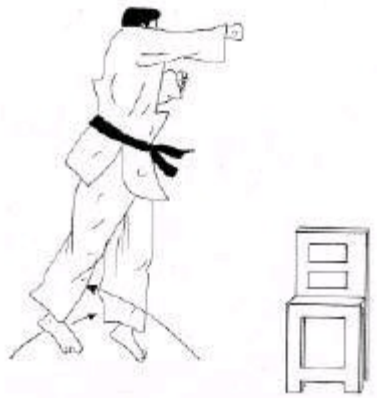
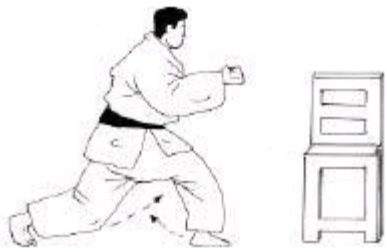
Side Kick: The execution is like the front kick variation until the kick itself. Chair is positioned accordingly





This sequence shows a step-up roundhouse version of the drill, using one chair only. The back of the chair serves as hurdle for the leg chamber that is simultaneous to the step-up. The principles and key points are identical to those for the front kick and side kick. Work smoothly and uninterruptedly, from a low split position.

Split jump, step-up roundhouse, down and repeat on other side





It is now clear that you can so execute all kinds of kicks and enjoy the benefits of plyometric exercise.



# Chapter 5: Stairs

There are stairs everywhere, so it is an easy prop to have and use in your practice. It is a great training aid, not only for plyometrics: Everybody remembers the movie “Rocky”...

The stairs allow for a combination of both height and distance when jumping. A word of caution though: Not all types of stairs lend themselves to all drills and some set-ups can be dangerous. Always exercise on the lower part of the stairs and proceed carefully and gradually: A fall from stairs is potentially very dangerous.

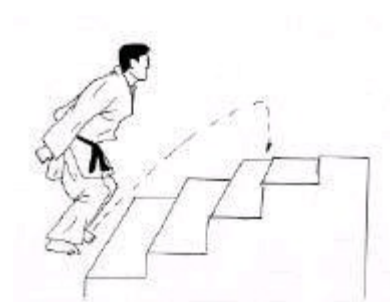
## Upward Stairs Jumps

This is the combination of a high and a long jump, with legs together. You simply jump from the base of the stairs up to the highest step you can reach. Step down and repeat. It would be more “plyometrically” beneficial to keep jumping up, but we cannot recommend this for safety reasons. This exercise is also best executed on wide step stairs. One of the advantages of stairs jumping is that is easier on the joints, as you land high at the end of the jump.

### Key points:

- Legs together at all times
- Proceed gradually and carefully. Get acquainted with the exercise and the specific stairs before aiming higher.
- Try to minimize the pause needed between the jumps to get back down.

Try to reach highest possible step. Repeat





Jump both high and long



# Lateral Stair Jumps

This is a multi-response drill in which you should hop back and forth with minimum ground time. Legs are not together: it is a Lateral Long Jump Drill (Chapter 2) executed on a staircase. It is even better if you can use a very wide staircase like in a public place, where you can jump sideways while

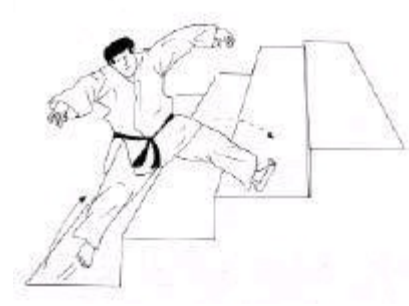
advancing slowly forward with each jump.

Standing sideways at the bottom of the stairs, you jump off one leg and try to reach the highest possible step with the other. As the second foot reaches the high step, you immediately jump back down to the starting position in order to repeat. If the set-up allows for it, it is recommended to jump down only one step and then repeat; in this way you minimize ground time and joint pressure, but you keep going up as the exercise proceeds. Something like: three steps up/one down...

### Key points:

- Concentrate on minimizing ground time, but be careful, especially on the jump down.
- Familiarize yourself with the drill and the specific stairs before trying for longer jumps.
- Drill until the muscles are exhausted, then switch legs and execute on the other side
- The jump down is not part of the plyometric exercise and is hard to the joints. It need not be executed forcefully like the jump up.

Lateral long jumps on the stairs



Jump laterally high, long and fast



## Off-box Onto Stairs

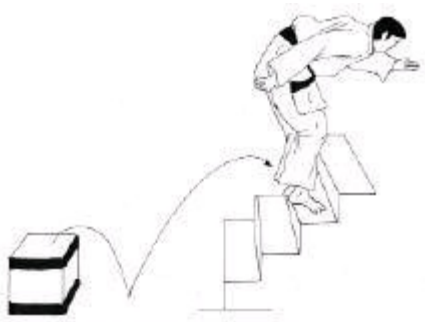
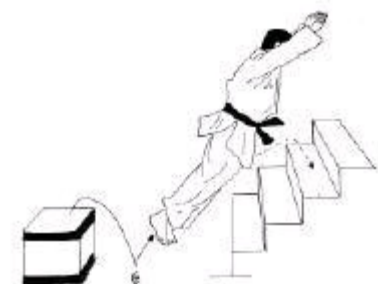
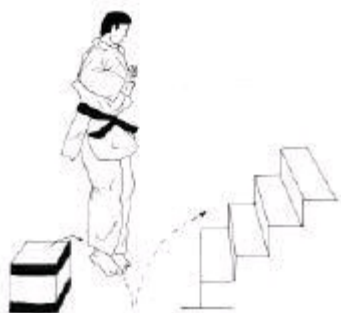
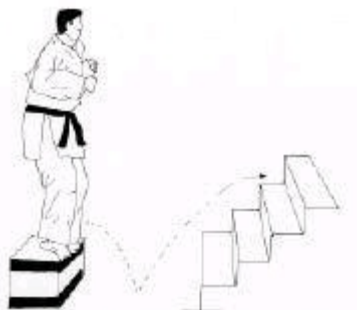
In this drill, fully plyometric, you jump off a box and then immediately up onto stairs, to the highest possible step. The jump up is therefore both high and long, and after a hop-off; a great exercise, with the added benefit of a jump up easier on the joints. But as with anything involving stairs, be careful!

Do a few dry runs to position the box in front of the stairs at the right distance for your proficiency. Then increase the distance and difficulty very gradually. This is not a multi-response drill, but do proceed back down and onto the box with no delay.

### Key points:

- Concentrate on minimizing ground time between the hop-off and jump up.
- Try to gradually and carefully get onto a higher step.
- Repeat until the muscles are exhausted.

Hop off and immediately up onto the highest step possible, no pause. Repeat



## Lateral Up and Kick

This is a lateral step-up followed by a kick. The stairs allow for a higher lateral step-up, and for a continuous exercise (with the same leg) so long as there are stairs to climb. This is an important drill that allows for many different kick types.

As you stand laterally at the bottom of the stairs, you place one foot on the highest possible stair (Caution: Start carefully from one step only!). From this position, you explosively lift yourself up on this foot while directly chambering your kick. At right the front kick version is illustrated. After kicking and chambering back, you lower the foot onto the step just below. You then repeat the exercise without any pause, lifting the non-kicking leg to the next highest possible step. The idea is to climb up two or three steps at a time, each time lowering the kicking foot one step down. 2 up, 1 down; 2 up, 1 down. Or even better: 3 up, 1 down; 3 up, 1 down.

### Key points:

- Concentrate on smooth uninterrupted work, all the way to the top of the stairs.
- Keep practicing one side until exhausted, then switch legs.
- Start carefully and gradually from one step only; then increase the number of steps up.
- Go directly into kicking chamber.
- When the drill is mastered, concentrate to minimize ground time between leg down and next step up.

Step up laterally two steps, kick, lower one step, repeat





As mentioned, the drill lends itself to all kinds of kicks and the reader is encouraged to experiment carefully. The sequence below illustrates a side kick version and below that is the drill with a full roundhouse delivered to the side (no pivot).

Lateral up and Side Kick, repeat in series





Lateral up and Roundhouse Kick to the side, repeat in series







The crescent kicks can benefit very much from these drills. Many other kicks can be drilled but showing more would be unnecessary. Try them!

Stairs Lateral Up and Crescent Kick





## Box Switch Jumps (Revisited)

As mentioned in Chapter 3, the Box Switch Jumps Drill can be executed at the bottom of a staircase. Refer to previous section.

Box Switch Jumps at the bottom of a staircase





# Chapter 6: Elastic Bands, Medicine Balls and Weight Plates

Elastic bands are a must-have training prop for the Martial Artist. There are several exercise types that are especially suitable for the kicker that we shall present. Most elastic band drills have a certain amount of “plyometry” built-in when they are executed in series with minimum pause. Not all are fully “plyometric”, but definitely all are beneficial. They should be part of every kicking artist’s routines. A single word of caution: Beware of the band tearing during a drill! One should get a taste of being hit full force with a tearing band to understand the amount energy built-in and the bruising and damage it can cause; the least would be a big blue ecchymosis. It is recommended to discard bands showing signs of tear and wear.

Medicine Balls, also known as exercise balls or fitness balls, are heavy balls for specific fitness drills. There are many exercises possible, many of them plyometric in nature. Medicine balls are great for upper body and abdominal development. They also can be used for legs development in more complex drills, but we shall present here only two exercises, with a partner, for the plyometric drilling of the oblique and lateral muscles. These muscles are part of all kicking maneuvers, but especially important in circular and spinning kicks.

## Elastic Band Kicks

These drills are simply kicks delivered with an elastic band around your waist and pulling you backwards. Those are ideal for thrusting kicks, where the hips move forward, as they will improve the explosive power of the muscles involved in the penetration effect. They are also very good for other kicks, like full roundhouses or crescent kicks, but then must be executed with less pull-back. The only kicks not suitable for the drill are the spin-back kicks, obviously. A very important point is to always remember, at the end of the drill (at least ten kicks), to execute the kick likewise but without the elastic band to feel the boost of energy the practice gives to the kicking muscles. Always execute five “no-band” kicks after each series. You should be amazed by the results.

The ideal way to practice is with two partners: one holding the elastic band and pulling you appropriately backwards; the other playing the role of the target “pulling” you in just enough to make sure you try to go a little further. Of course, the partner holding you can be replaced by tying the band to the wall, an exercise ladder or a door. This will eliminate the fine tuning of the exercise where your partner pulls back just enough to let you thrust forward with effort. But it is good enough for the drill if you make sure you start from a distance stretching the band just enough.

Likewise, the “target partner” can be simply imagined or replaced by a heavy bag or another target. Again, it will not have the “luring” effect of a moving partner, but the extra mile will be left to your concentration and imagination.

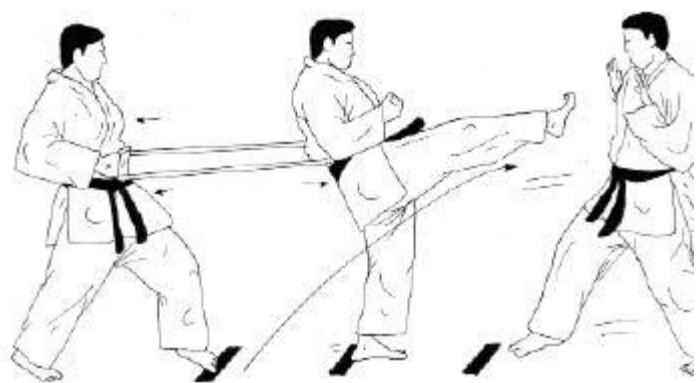
### Key points

- Explode into the kick with no preparatory step or tell-tale motion. Avoid telegraphing your intentions.

- Try gradually to increase speed and distance
- Make sure band is not so extended that you lose your balance. Keep technical.
- Always do at least 10 reps with the same leg with minimal pause time in between kicks

Always finish the series with 5 kicks without the band, at full speed and distance.

Elastic band penetrating front kick with two partners



The simplest example and most common drill is the straight forward kick, illustrated here with two partners. Repeat at least ten times (or until exhausted) with the same leg, drop the band and execute “free-style” (same leg) five times. Switch legs and repeat.

Some coaches also do the drill with weighted ankles, but I personally think that is overdoing and diverting the focus from the main purpose.

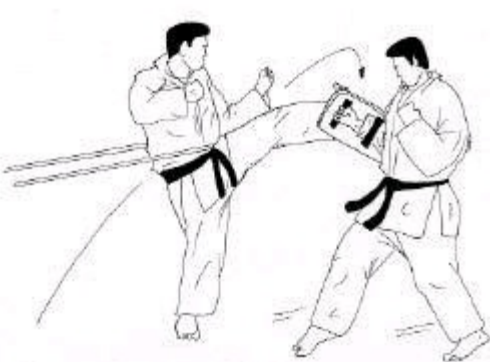
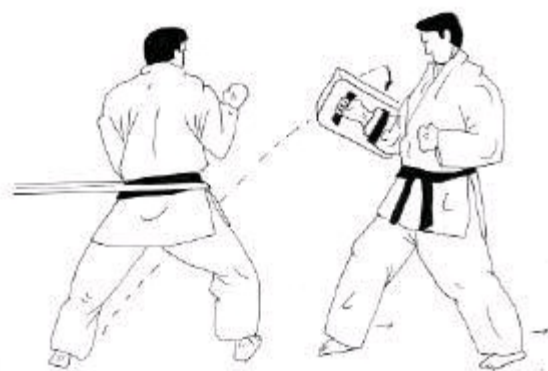
The figures below illustrate the execution of the drill with a hopping side kick with a “target-partner”. The elastic band is fixed on a hook in the wall. Principle is the same: execute the kick as far as possible at least ten times. Strive to go further faster each time. Then release the band and execute the kick five times. Repeat on the other side.

Elastic band front leg side kick with one partner



The figures below illustrate the drill with a rear leg crescent kick to a focus pad hold by a partner. Of course the target could be fixed like a heavy bag or a punching ball, but a good partner will always be better at getting the most out of you. The principles and the way to execute stay the same as for the previous kicks.

Elastic band rear-leg crescent kick to focus pad



Many other kicks are suitable; use your imagination and start drilling.



# Steps and Runs

These are the more classic exercises for the purpose of allowing you to move faster to close the distance or better position yourself for a kick.

The most common of elastic band drills, used by coaches in many other sport disciplines, is the Elastic Band Sprint.

As illustrated below you run forward while a partner pulls back on the elastic band around your waist. Your partner uses his body weight and pulls back just enough to allow you to progress slowly forward. You should sprint for ten to twenty seconds, and then come back to your starting point to catch your breath. Aim to repeat ten times. Some athletes prefer to use two elastic bands across their chest diagonally, criss-crossed.

Elastic band-restrained front kick



Front-leg front kick with elastic band resistance



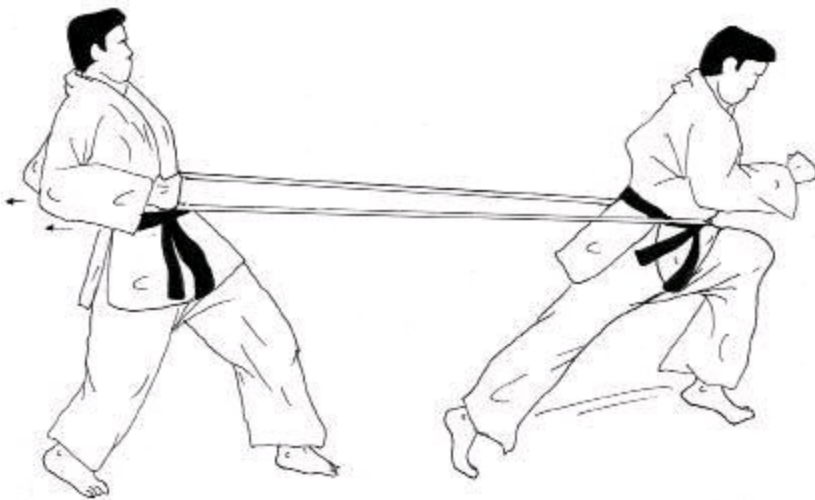
This drill is a must practice for stamina and muscle power. But, on top of it, the more Martial Arts-specific versions must be drilled. Those are basically the stepping techniques specific to your art or to your fighting style. We shall give a few examples, but you should drill the specific ones you use in

general practice. Here is the place to underscore how important these drills are. The young artist could be looking down onto these exercises as not challenging or interesting enough; he would be making a serious mistake. The experienced fighter knows that it is the positioning, the timing and all the preparation that will make a technique successful, not the technique itself. Learn to move fast first, your kicks will score!

### Key Points:

- Partner sensitivity is key to the drill: You should be pulled back just enough to make forward sprinting difficult, but not stopping you. Your partner slows you down but walks behind you to avoid overstretching of the band or slowing you too much.
- Make sure you are bent forward to make the drill about the legs, not the lower back

Sprint with elastic band



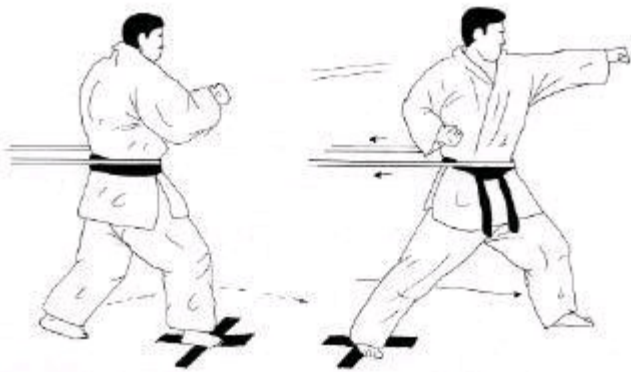
The Elastic Band Full Step is the classic full step forward of traditional martial arts, with an elastic band pulling you back. This drill must be executed with an experienced partner who will not be trying to hold you back, but will be exerting just enough force to make your progression difficult. This is a much easier “pull-back” than for the Sprint version. Ideally, you should be allowed to do two full steps before going back to starting position and repeat. Keep drilling until your muscles are exhausted; you can execute a classical punch with each step, for form.

### Key Points:

- The step must be technically good: Make sure your head stays at level during all of the step, and your body stays straight.
- Use your legs and hips
- Do not pause between the two steps, and alternate the side of the first step

Full Step traditional punch with elastic band pull-back



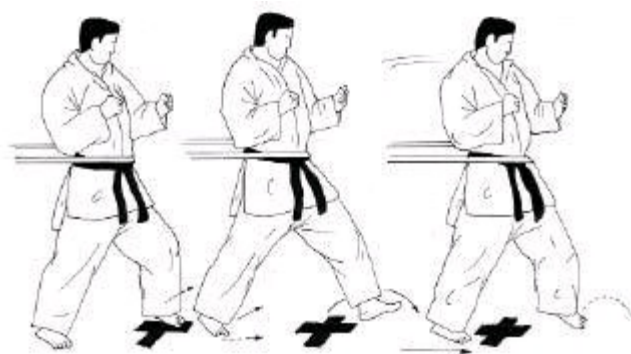


The Elastic Band Half-Step is much more important to practical fighting. It will improve your speed of positioning and closing the gap. As illustrated below you just push forward from the back leg in fighting stance to move the front leg forward up to half the distance between your legs. You then pull in the back leg to get back into fighting stance. Repeat fast, progressing forward without moving anything other than your legs. Your partner pulls back while you execute ten steps in series. Go back to starting position and repeat until your muscles are exhausted. Then do a five-steps series without the elastic band, trying to make the longest and most explosive half-steps possible. Then repeat on the other side.

### Key points:

- Concentrate on the step being your closing the distance for an attack
- Make sure that your head stays level and that you do not telegraph the step in any way.
- Repeat in series. No pause
- Always execute with no band at the end.

Move forward with exploding half-steps against band pull-back

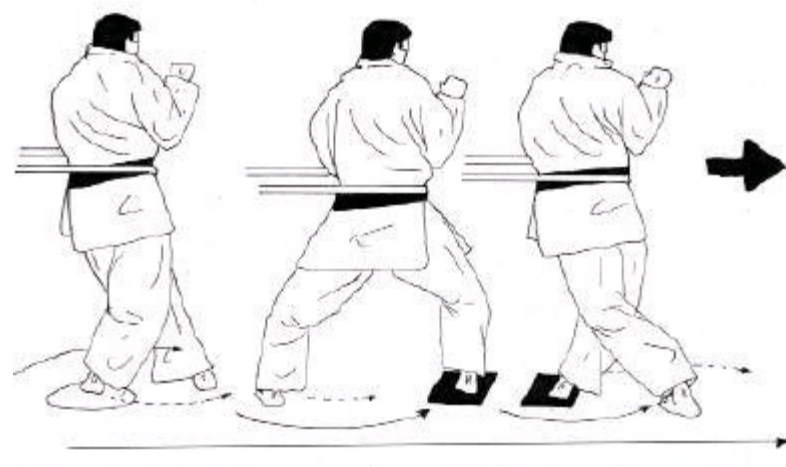
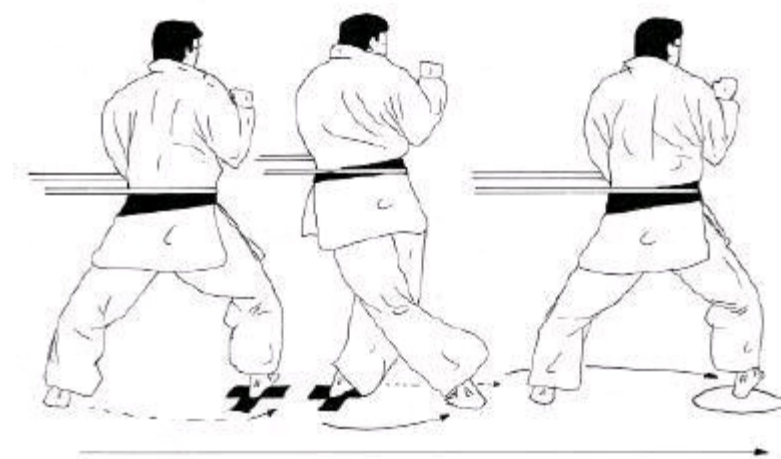


The Elastic Band Side Cross Step is a great drill of the traditional side step that will build powerful specific muscles. Do practice it, even if you think the step itself is outmoded in modern fighting. You should practice both ways to cross step: crossing in front (for the side kick) and crossing behind (for the roundhouse kick). Therefore, the best way to practice the drill is to do both ways in sequence, alternating the first step. In side stance, with a partner holding the elastic band around your waist, cross-step in front, then behind. If possible, do four steps before going back to starting position. Repeat until exhausted, then execute the drill with no band.

## Key Points:

- Stay technically correct in spite of the pull-back.
- Make sure your head stays level and you use only your legs
- Always execute with no band at the end of the drill.

Progress with alternating side cross-steps against band resistance. Keep head level.

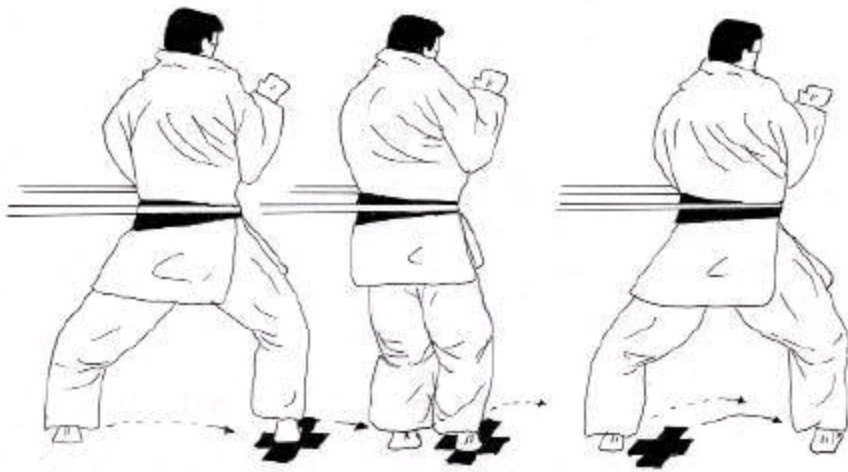


The Elastic Band Side Step is the more modern version of the traditional Cross Step. The principles are the same and it should be drilled in the same way. There is no front or behind-crossing in this case, just bringing the feet side by side, but still one should strive to do at least four side-steps before going back to starting position.

## Key Points:

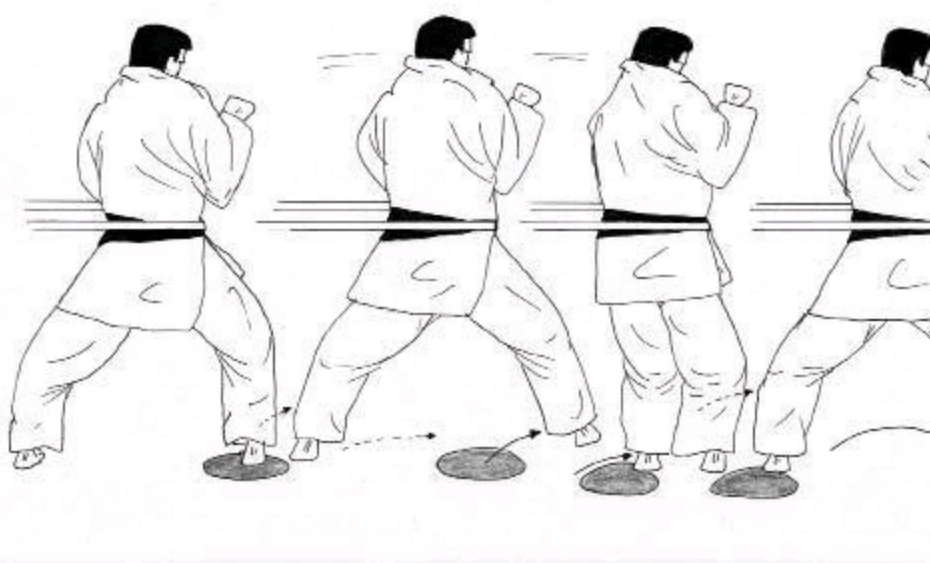
- Make sure you do not telegraph the step
- Concentrate on the execution as a gap-closing move against an opponent.
- Stay level, no bobbing!

Shuffle side step against elastic band resistance



An important Step combination drill is the half step + shuffle, illustrated below. The principles stay the same.

Fast half-step to close the distance, followed by shuffle, against band resistance



Elastic band-restrained sprint





Half-step drill with elastic band



Side hop drill with elastic band





There are many other steps and combinations of steps that can be so practiced, even oblique and backward steps. Do practice those you use with the elastic band; this will progressively build your free-fighting skills in ways you cannot imagine.

## Step and Kick

These drills are the combination of the two previous ones, on which foundation they are built. These are the ultimate drills combining the step that will lead to the kick. Again, the many possible exercises are left to the reader's imagination. Do practice the basic drills and then your own preferred kicking techniques accordingly. These drills are more "plyometric" in that they are a kick after a step, in series. It is important to concentrate on the step, and then on minimizing the time between the step and the kick. Proceed gradually.

The most classical of those drills is the Half-Step Rear-Leg Front Kick illustrated below. Your partner will pull you back just enough as you execute half a step forward, immediately followed by a full-power penetrating rear-leg front kick. Go back and repeat, about ten times. Execute then five times with no band and repeat on the other side.

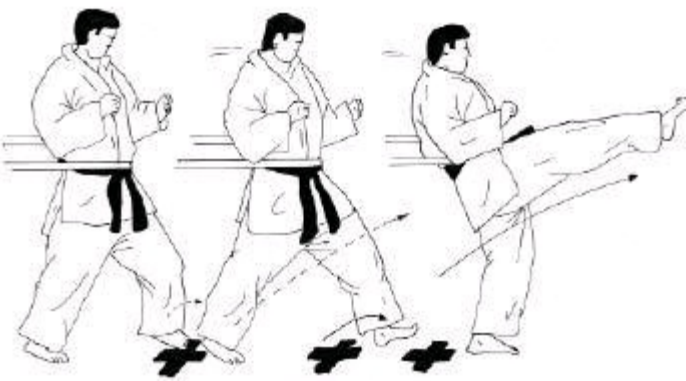
### Key Points:

- Concentrate on a "real fighting" execution.
- Minimize pause between step and kick.
- Avoid any tell-tale movement telegraphing your step.

The illustration below shows a Front-leg Front Kick after half-step + shuffle.

Small step forward with front foot followed by rear-leg full-powered penetrating front kick with hip thrust

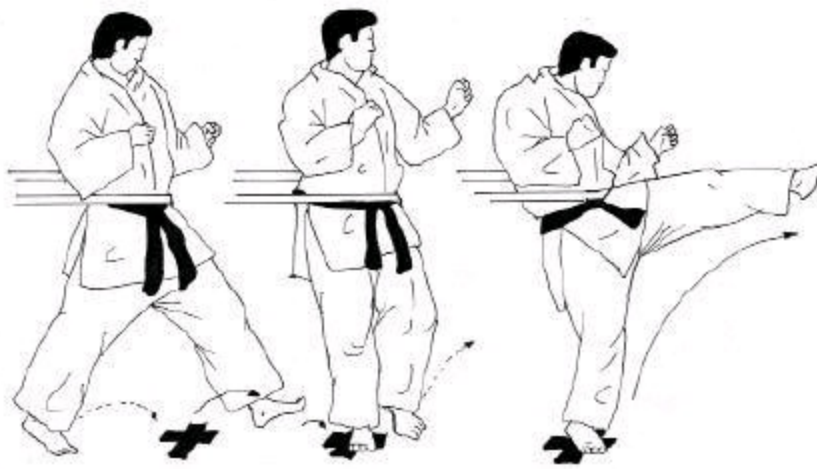




Half step and front rear leg front kick with elastic band

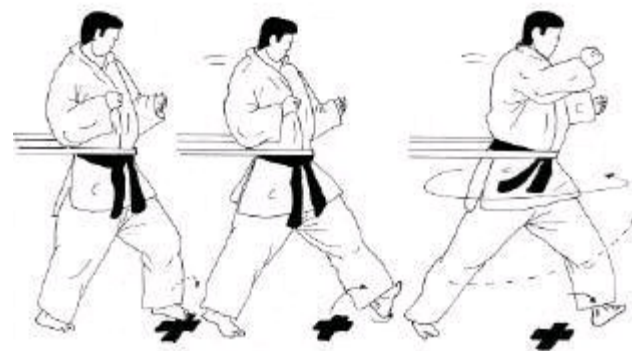


Small step forward, shuffle, front-leg penetrating front kick



Figures below illustrate a half-step low kick (Low Straight Leg Roundhouse Kick) with full hip rotation. In this exercise, your partner must pull back accordingly to allow you a good technical kick. It is also recommended you practice this drill with a second partner acting as a target, to pull you in and allow for a full-powered kick on to a target pad. Remember to do five kicks without the band at the end of each series.

Elastic Band Low Kick with two partners



## Medicine Ball Twists

This is a very simple exercise, extremely important in spite of the fact it looks so easy. As shown below, you simply twist to pass the ball to your partner who, standing back-to-back with you, twists to receive it. He then twists as fast as possible to hand it over to you on the other side. Of course, you have twisted yourself to collect it. You keep this going, as fast as possible, for as long as possible.

until your muscles get exhausted. Repeat with the ball turning in the opposite direction.

### Key Points:

- Your feet are stuck in the ground, unmovable.
- Minimize “ball time”
- Work your way gradually to heavier balls
- After the drill, execute a few spinning kicks

Simple Medicine Ball Twists. Execute Fast



## Medicine Ball Extended Twists



This drill is similar to the previous one, and the principle and key points are the same. The only difference is that, this time, the two partners stand a bit further away from one another and twist in the same direction. This causes the ball to travel in an “8” pattern instead of a circle, and causes the partners to have to twist even more. A picture being worth a thousand words, it will easier to grasp from the figures below.

Drill fast with legs immobile.

A bit counter-intuitive but forces an extended twist



Drill for fast spinning Kicks



This drill, and the previous one, are extremely important for explosive spinning kicks.

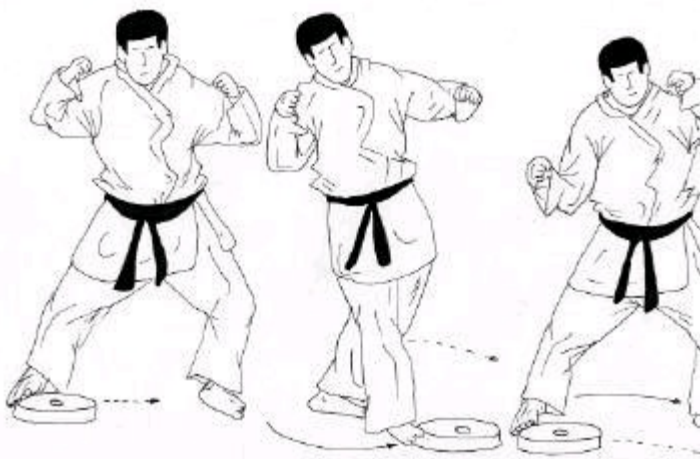
## Weight Plate Sweeps

This drill uses a weight plate; start light at 10 pounds and increase weight gradually. The drill is a multi-response exercise mimicking a classic sweeping throw technique (De Ashi Barai). It is a great abductors/adductors exercise to be executed continuously without any pause. You simply push the weight plate with your foot as if you were sweeping your opponent's front leg. Step and repeat immediately as illustrated below. Do all the room's length and come back by switching legs. Keep at it until muscles feel exhausted. Concentrate on the sweep and keep hands up in guard as if a real-life sweep. When proficient, increase the weight to be swept.

### Key Points:

- Do not rest in between sweeps or when switching legs at the end of the room
- Push sideways and near you; push across your body line
- Keep pushing leg nearly straight

Step, Push the plate; Repeat



## Weight Plate Ground Push

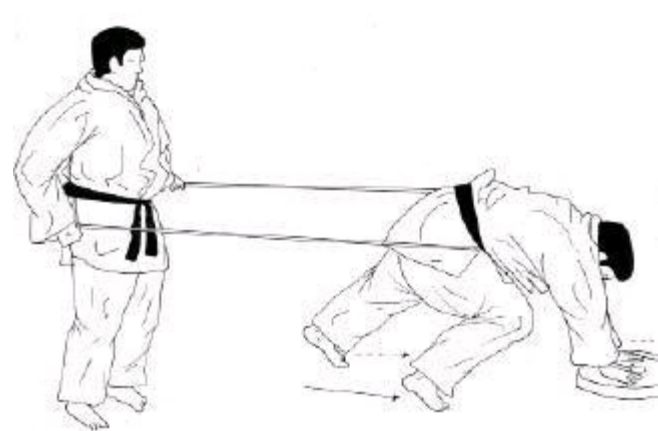
For this drill, you should start with a heavier weight plate, let us say 20 or 30 pounds, and increase gradually. This is a very simple but hard exercise: Push continuously a weight plate on the ground as illustrated below. Your hands are on the plate and your arms are straight, as in a push-up position. You start pushing the plate around the room, using only your legs. Work with fast steps to make this drill a plyometric multi-response one. Push continuously with no pause until exhausted.

Once familiar with the drill, you can make it much more challenging by having a partner use an elastic band to pull you back; of course, he should pull just enough to make it difficult but not to stop your forward movement. Your partner follows you around the room while pulling you back slightly.

The fantastic Plate Ground Push



A partner and an elastic band will make the drill more challenging



# Part 2: Flexiometrics

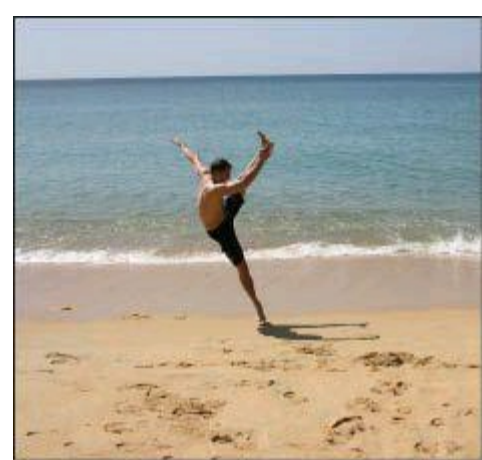
## Chapter 7: General

### Principles and Theory

Flexibility could be defined as the ability to use the full range of movement of a joint or a combination of joints and the relevant muscles attached to those joints. Flexibility, or rather the personal “full range” of an individual, is very much determined by genetics but can be improved markedly by stretching. Stretching is the elongation of the muscles, joints and connective tissues in order to improve flexibility.

For the kicking Martial Artist, the importance of flexibility is obvious: it will allow for longer and higher reach. Hidden, though, is another important, and maybe more important benefit of high flexibility: Speed. Even if you kick low, flexibility will allow for a faster kick.

Flexibility allows you to kick higher... and faster



Speed being a part of the “explosiveness” equation, it is important for all athletic activities. Flexibility improves speed potential. And as plyometrics are based on contracting a stretched muscle, flexibility will also improve potential results from plyometric training.

The other benefits of stretching are common to all sports: better muscle tone, less danger of injury, easy use of the full range of joint movement and reduction of muscle soreness. And the relaxing effect of stretching is clear to anyone who has capped a full yoga session with a meditation and relaxation

posture: care must be taken in order not to fall asleep, and the feeling of well-being is great and different from any other brought by exercise.

The generally accepted theory of stretching differentiates between several types of stretching:

1. Static Stretching: You basically hold a position at its full-range of motion, like the splits. Some authors differentiate further between Static-Passive where gravity helps to maintain the position (Splits); and Static-Active where the muscles are used to maintain the position (Also called Active Flexibility Stretching). Yoga is the embodiment of static stretching, and its results for flexibility speak for themselves. The physiological theory stresses that there is no need to hold a stretch longer than twenty seconds to benefit from it, although twelve seconds is a minimum.

Static Passive stretching – gravity helped



2. Dynamic stretching: This is obviously stretching while moving and uses the full range of a joint movement at regular or high speed, and usually in a specific sport application. You basically stretch the muscle dynamically into an extended range of motion, BUT not exceeding your static-passive stretching ability. An example is the straight-leg front kick, in which you balance your leg higher and higher, but not more than the front splits you could do on the floor.

Dynamic Stretching: Straight-leg Front Kick



3. Ballistic stretching: This is the “old” and bad way to stretch. It uses the energy of bouncing motions to further lengthen the muscles and increase the range of motion, trying to gradually force your way a bit further. This has a greater potential to cause injury and does not lengthen the tissues. Do you remember the Stretch Reflex mentioned in “Plyometrics”? Bouncing causes this reflex and therefore the automatic contracting of the muscle! Not good!

4. Passive Stretching: This is another word for partner training, although the partner can be replaced by equipment and stretching machines. In principle, you relax your muscles and let the partner increase slowly and gradually the range of motion. It has the great advantage to allow for stretching beyond the static range of motion, but it requires great care and sensitivity from your partner. Also,

the speed of pressure must be carefully controlled to avoid the stretch reflex to set in.

Passive stretching: The hip joint in Roundhouse Kick Chamber



There are more sophisticated stretching strategies, but they are beyond the scope of this book.

We shall not delve into the physiology of stretching, as it has no direct bearing in how to train besides what has already been written. The muscles are composed of different sorts of fibers, based on different proteins and configurations. Some specific proteins have more bearing to the elasticity of the fiber than others but their names will not help the artist. The joints and connective tissues also play a key role, but most of it is common sense. Most of the connective tissues that include well-known collagen are viscoelastic in nature. It simply means that, when stretched, they do not revert immediately to their former state like elastic, but do so very slowly and gradually. This explains partly why flexibility will tend to decrease if you stop training.

While stretching, the artist has to cause the body to reconfigure itself in a more flexible set-up; this will be achieved by going very slowly and gradually a bit further each time, avoiding the “stretch reflex”, and by lowering the sensitivity signals sent by the neurological interfaces to the muscles and joints. The only way to do all that is by stretching SLOWLY, relaxing, and making use of the reciprocal inhibition reflex. This is fancy wording for the body’s tendency to relax a muscle when the antagonistic muscle is contracted. In other words and for example, in your full stretch, slowly contract your quadriceps to further relax your hamstrings.

## Caution

Stretching must be done very carefully. It is obvious, as it is dealing with elasticity. Overstretching anything elastic can cause irreversible damage. On the other hand, stretching has been demonstrated to prevent future injuries when done properly, and to have a long-term protective effect.

This book advocates training sessions exclusively dedicated to stretching, but appropriate stretching should also be practiced in the warm-up and cool-down parts of regular training sessions; more on that further on.

Dedicated stretching should only be done after warming-up, as the warmed muscle lends itself to more stretching and less danger of injury.

Stretching must be done carefully, by “listening” to your body: You have to reach your maximum static range of motion slowly, with relaxed muscles and without bouncing. The position should be held comfortably for about 20 seconds. If you feel it is not possible, you are already too far; more on



the methodology further on.

Never stretch an injured muscle. Do not use warming balms (Deep Heat, BenGay, Tiger Balm, and others) as substitutes to a physical warm-up; those are excellent for after-training, or in combination with a real physical warm-up.

It will never be said enough: NEVER bounce or use jerky movements when you stretch!

Stretching is no contest: Do not try to “beat” a partner or friend! Stretching is doing your own best in the framework of your genetic potential, and improving yourself slowly and gradually: You compare to yourself only!

## **Methodology for the Martial Artist**

It has already been made clear how important stretching is for the martial artist: Flexibility, high Kicks and Speed!

This book refers to dedicated stretching sessions, not to the warm-up and cool-down parts of other types of training sessions. The principles stay the same, with a bit more dynamic stretching during warm-up. Any stretch can be done during cool-down as the muscles and joints are then very warm and supple, but the purpose there is relaxation and light stretching to avoid a shortening of the muscle later in the recuperation phase (especially after power and weight work). All the stretching exercises presented here can be done in the cool-down part of regular training. Stretching cool-down is a must after the plyometrics sessions described in the first part of this book. But a cool-down session should not exceed 15 minutes.

With the exception of Dynamic Stretching that will be treated briefly and separately, the Martial Artist should mainly stretch in the Static-Passive way, in the way Yogis train. A few drills of Passive Stretching with a partner will be presented, as those, when well done, are beneficial and do tend to promote camaraderie in the school. They are, in fact, similar to the help provided by the teacher or props in Yoga class.

The constant reference of the author to Yoga is not random: Yoga, from most schools, is definitely the best way to promote flexibility. It also promotes core-muscles building, balance, breathing and concentration; and the cross-practice of Yoga is highly recommended to the Martial Artist. Unfortunately, not every artist has the time or opportunity to add Yoga to his crammed schedule. Therefore, this book will present the most important stretching moves for the kicking artist, and whenever relevant, will mention the Yoga posture name.

The drill methodology is also that of Yoga:

After warming up, the artist will take the position described slowly. He will then stretch slowly and gradually close to his maximum. He will hold this position for approximately 20 seconds, while trying to relax the stretched muscles. He should, when possible, try to go a bit further by contracting slowly the antagonists (the opposing muscles), and then relaxing more. Once relaxed and while breathing out, the artist will try to slowly deepen his range of motion a little bit more, avoiding the



kick-in of the “Stretch Reflex”. He should try to hold this maximum position for another 10 to 20 seconds. Going out of the stretch should also be done slowly and gradually. A stretch should be executed twice, before progressing to another one.

Relaxing and controlling your breath will be key to your progress, by allowing you to better control of the stretch reflex and automatic antagonistic body reaction.

Dedicated stretching sessions of one full hour will help the Martial Artist access a higher level. But again, the body needs rest from stretching as well. There should be at least one day of rest between the sessions, and more than three sessions a week is not recommended.

## **The golden rules of stretching**

Always warm up before stretching.

Proceed slowly and gradually. No bouncing or jerky moves!

Avoid direct air flow while stretching. No air conditioning or fan directed to you.

Do not overtrain. Full sessions: never on consecutive days. No more than one day on/one day off.

Do not stretch injured muscles or joints. In stretching, “No pain, no gain” is a counter-truth. If a stretch hurts, stop immediately.

No need to hold a final position more than twenty seconds.

Come out of stretch poses slowly.

# Chapter 8: Dynamic Stretching

These exercises, as mentioned, are more for the warm-up phase of any work-out, including flexiometrics sessions. We shall only present a few drills as it is not the core matter of this book. The moves must be practiced gradually and carefully. The range of motion should never exceed the maximum static stretch range.

A warm-up session should be started with an overall warming exercise like hopping, rope skipping or light jogging. The author believes that a subsequent good way to warm up would be abdominal exercises, as they also have tremendous overall benefits. Crunches, leg raises and similar drills will both warm up safely, while strengthening the abdominal belt. Further warming-up can be achieved with regular old-fashioned calisthenics. The author proposes instead to execute slow-motion kicking maneuvers, increasing speed and height slowly and gradually, but this is open to everyone's preferences.

Once the body is warmed up, here are a few iconic dynamic stretching exercises, to be performed, of course, on both sides:

## The Straight Leg Front Kick

This is a classic kick in itself. Basically, one throws the front leg held straight gradually higher, and ultimately as high as possible. See below. Repeat with the same leg at least ten times, preferably without lowering to the ground. This exercise is obviously directly beneficial to many high kicks.

Straight leg front kick. Repeat without lowering the leg, as a pendulum



Front view of the straight-leg Front Kick



A Lotus Kick will obviously benefit from the drill



## **The Straight Leg Side Kick**

This is simply the side kick version of the previous kick. The principles are the same: proceed slowly and gradually with the leg held straight. Repeat, preferably without lowering the leg. The trainee can lean on the wall or a dance bar for better balance.

The straight-leg Side Kick drill



A high Upward Side Kick in use



The drill will obviously be highly beneficial to high side kicks, especially upward ones.

## **The Straight Leg Front-Back Pendulum**

This is a variation of the first kick: when you lower the leg, instead of slowing down, you keep the momentum alive and throw the straight leg backwards in a “straight-leg back kick”. You slowly try to go as high as possible on both the forward and the backward move. Keep your upper body as straight as possible.

Straight leg balanced back and forth as high as possible





This drill will be good for overall hip flexibility, but especially beneficial to back kicks and their variations.

## **The Side Knee Raise**

This is the lifting of the bent knee to the side in the chamber position of the full roundhouse kick. Lift gradually as high as possible. Repeat, preferably without lowering the foot to the floor.

Lift the knee progressively as high as possible



Besides the overall flexibility benefits, this drill will improve both the speed and the reach of your roundhouse kicks.

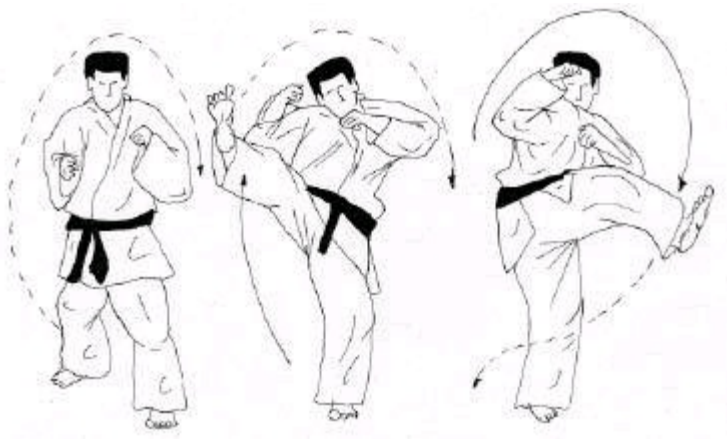
Respectively faster and higher kicks



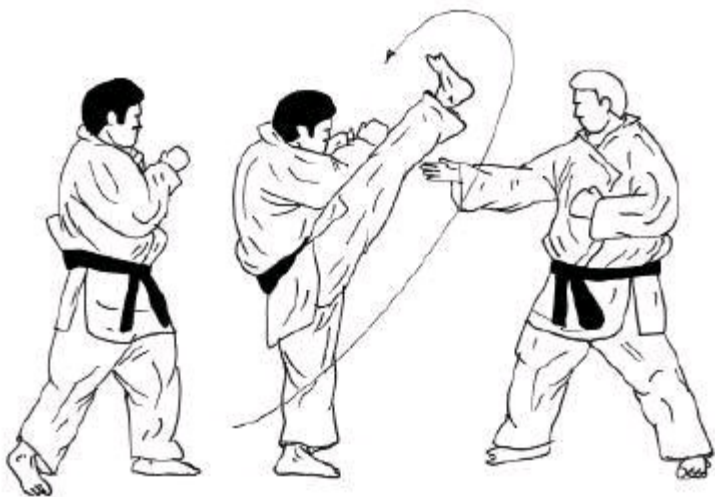
## The Inside Crescent Kick

This is a very important kick in itself and the reader is again referred to its classic execution. The kick is to be practiced gradually higher and wider. The drill can also be practiced with a partner holding his hand higher and higher to force you to pass over it.

The inside Crescent Kick as a dynamic flexibility drill



Kick over a partner's extended hand, gradually held higher



## The Outside Crescent Kick

This is the opposite maneuver of the previous kick discussed. Everything said stays valid.

The outside Crescent Kick, practice high and wide



A partner's hand will help you kicking higher and higher



## The Phantom Groin Kick

Again a kick, and quite an effective one at that. The reader can again refer to its classic execution and

applications. The kick should be practiced loosely and in a relaxed manner, trying to reach higher and higher. This is a very important exercise, as proficiency in kicking requires great flexibility of the knee joint that is often under-trained.

Try to lift the lower leg parallel to the floor



The phantom groin kick is a redoubtable strike



## Cobbler Dynamic Stretch

This is a classic of martial arts warm-up. In cobbler's pose, flip your knees up and down progressively wider. The static version of the stretch will be presented later in detail.

This stretch is beneficial for all kicks, but especially so for the convoluted ones progressing along a changing trajectory.

There are many more possible stretches and the experienced artist is probably familiar with most of them. Remember, dynamic stretching is mainly for warming up. Intense Flexiometrics call for static-passive yoga-type stretching.

Move your knees up and down, gradually lower





An important exercise for kicks like the Outward-tilted Front Kick



# Chapter 9: Lower Leg Stretching

Lower leg stretching is important for overall fitness and injury prevention. For the kicking artist, it will be of particular importance for speed of positioning and for kicks requiring fast pivots on the standing foot like roundhouse or spinning kicks. It is a great preparation for many plyometrics exercises.

Roundhouse Kick



## Anterior Lower Leg

The main stretch for the anterior lower leg is simply sitting on your knees and heels. Yoga's Vajrasana. This is, of course, also the classic sitting and meditative position of most Asian Martial Arts, and should pose no problem for the experienced artist.

Easy but important: Yoga's Vajrasana



Some people are especially stiff though, and the pose can be approached gradually: Sitting on the toes first, then the use of a cushion under the feet.

The stiffer trainee should sit on his toes first and then try the stretch with a cushion under the feet



The trainee should then drill the basic stretch alternatively with opened and closed knees, as it stretches the muscles differently. To progress, the trainee should then sit with a cushion under the knees to further stretch the anterior ankle and lower leg. Alternatively, he should pull on his own toes when sitting to stretch these muscles even more.

Stretch with closed and opened knees alternatively



Once the pose is easy, the trainee looking for a challenge should proceed to sitting with his bottom between the heels. This pose, Yoga's Virasana (or Hero's pose), is much more difficult and has the additional effect to stretch the front knee. It should be approached very carefully and gradually.

More challenging: Cushion under knees or pull up on your toes



Sitting between the knees: Yoga's Hero's pose



The next stage would be reclining with the back on the floor to the Supta Virasana pose presented later for the additional stretching of the quadriceps (See Chapter 12) and illustrated in step 8. The progression of kneeling poses in order of difficulty is presented below.

Progressively more challenging to the Anterior Lower Leg





## **Posterior Lower Leg**

## **Downward Dog Poses**

The Downward Dog Pose (Adho Mukha Svanasana), shown below is one of the most recognizable

Yoga poses. It is a highly beneficial pose, stretching the shoulders, the spine, the hamstrings and the calves. It also irrigates the brain and allows for breathing exercises. In our case, we want here to concentrate on the lower leg muscles and tissues, which calls for what is referred to as a “Long Dog”, meaning a longer distance between heels and hands. A shorter Dog will work more the hamstrings and take off some strain from the arms and wrists. As we are trying to concentrate on the calves and adjoining muscles, it is imperative to concentrate on their stretching, to keep the legs straight and to strive to keep the heels on the ground. The beginner should do a shorter dog, but strive as much as possible to straighten his legs and keep his heels on the floor. With training, he will then increase the distance between his hands and feet for more calf stretch.

### Key points:

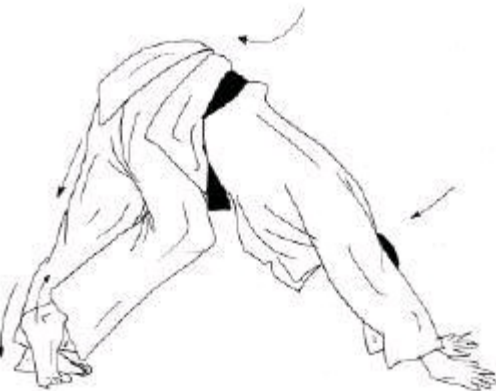
- In all variations, concentrate on the specific muscles and joints you need to work on; in our case here: the calves’ muscles. The longer the distance between your hands and feet, the more the lower leg stretch.
- Keep your heels on the ground. Or strive to!
- Stretch as per the principles exposed above; twenty seconds and the right methodology.

The Downward Dog pose for calf stretch



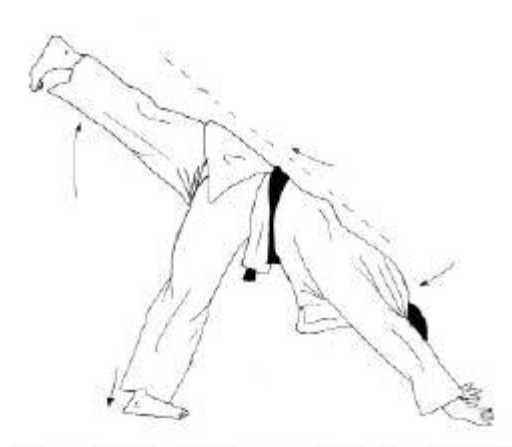
The stiffer artist will benefit by starting with an “Alternating Dog”, lifting the heel of one foot to better stretch the other one. See below.

Stretch one calf at a time



The more flexible artist will try to do a full Dog Pose with all its other stretching benefits. He will also proceed to the more intense “One-Leg Dog Pose” (Eka Pada Adho Mukha Svanasana ), in which more body weight is placed on the one stretched calf. Drill both sides.

The more intense One-leg downward dog pose



The progression of the various “Dog Poses” in terms of difficulty is presented here.

From easy to more challenging: Small Dog, Big Dog on toes, Big Dog, One-leg Dog





## Flexed Foot Front Leg Stretch

With your front foot 10 to 15 inches in front of the rear foot, flex the front foot as much as possible while keeping the heel on the floor. Lower your head towards your front knee to stretch. This is also a hamstring and a lower back stretch; therefore you must concentrate on the posterior lower leg and keep the foot flexed at its maximum.

This is a variation of the yoga pose Parsvottanasana, but concentrating on the lower leg.

### Key points:

- Flexed foot at all times
- Concentrate on calf muscles
- Keep front leg straight

Front Leg stretch: Concentrate on flexed foot



## Back-of-the Knee Sitting One Legged Stretch

This is Yoga's Janu Sirsasana: Sitting with one leg straight and the other bent with the sole of the foot against the inner thigh of the extended leg. You lower the chin towards the extended knee while pulling on the toes. This exercise stretches the spine, the hamstring, the back of the knee and the posterior lower leg. Switch sides.



## Key points:

- Pull up on your toes: the stretch should mainly be about your posterior knee and lower leg.
- Strive to completely straighten your leg, then only bend forward.
- The foot should be flexed at its maximum.

Yoga's Head-to-knee forward bend



Should the stretch be difficult, you should use a band or a towel to extend your reach, as exemplified in the next variation.

Ankle-over-thigh forward bend: start with a band (left)



A variation of the stretch, especially beneficial if the basic stretch is relatively easy for you, calls for placing the ankle of the bent leg on the top of your extended thigh. This makes the stretch more difficult while also stretching the muscles of the bent leg. It is recommended to begin gradually, with the aid of a band or a towel to extend your reach, as shown below left. Again, concentrate on pulling on your toes, not on the spine bend.

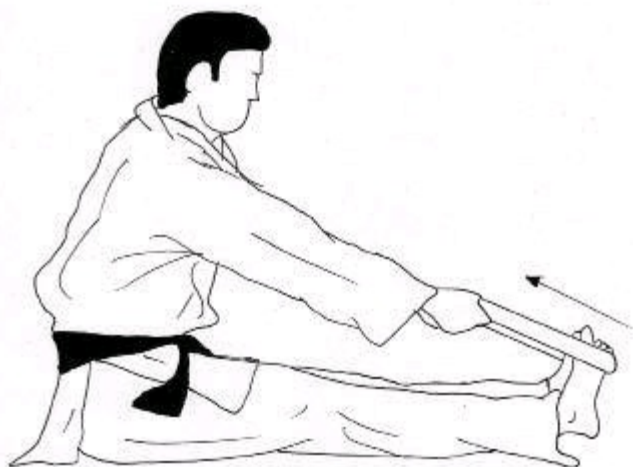


In those back-of-the-knee exercises, concentrate on pulling on the toes!

## **Sitting Two Legged Stretch**

Yoga's iconic Paschimottanasana is the natural continuation of the previous stretches, bending now over both extended legs. Again, do concentrate on pulling on the toes, as we are trying to stretch the back of the knee. And do proceed gradually, with the help of props if necessary.

Yoga's Seated Forward Bend, starting with the help of a band



## **Crossed-legged Standing Forward Bend**

This is a variation of Yoga's Uttanasana that concentrates on the back of the knee. It is a very

important drill. You simply cross your legs in standing position, and then bend forward as much as possible. The crossing of the legs will cause the rear leg to be extended at its maximum. Strive to touch the floor, then bring your head to your forward knee. Maintain the position as per our guidelines. Switch legs.

The key points are the same as for the one-legged versions. Remember especially the pulling on the toes.

### Key points:

- Feet flat on the floor
- Legs straight
- Concentrate on the posterior muscles of the rear leg.

Cross straight legs and bend!



Cross straight legs and bend forward





## Lying One Legged Stretch

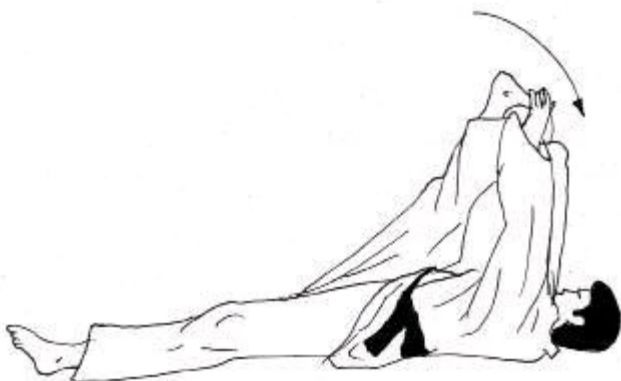
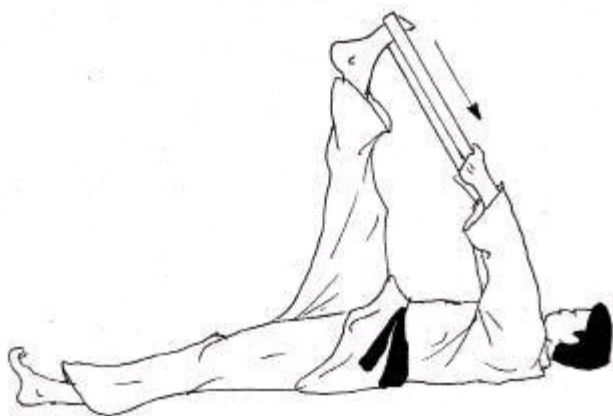
This is Yoga's Supta Padangusthasana. Lying on your back with both legs straight, you simply pull on the toes of one leg in order to bring it towards your face. The other leg stays straight on the floor. Proceed gradually, starting with a band or a towel around your toes. Switch legs.

Remember that Back-of-the-knee stretch requires flexed foot and pulling on the toes.

### Key points:

- Pull on your toes with the foot flexed at its maximum.
- Upper body and other leg stay in contact with the floor
- Both legs fully straightened

Yoga's Reclining Big Toe Pose, starting gradually



Pull on your toes while pulling the leg to you



# Chapter 10: Hamstrings Stretching

It is obvious to the experienced artist that a flexible hamstring will allow for high and fast kicking, especially of straight kicks. The hamstring stretches do also elongate the lower back and are probably the most recognizable stretching exercises for all sports. Their benefits for general fitness are many and cannot be under-stressed.

Fast High Kicks require flexible hamstrings



## Sitting Bends

### One Legged Sitting Bends

This is again Yoga's Janu Sirsasana, but this time with the emphasis on stretching the hamstring. But in this version, you will not forcefully flex the foot and you will not catch your toes. In fact, the opposite is true: you will try to relax the foot, so as to concentrate on the rear upper thigh when stretching. Bend forward, while trying to reach your knee with your chin; and strive to catch your foot, or better your heel. Not the toes. If you can, just place your forearms on the ground on both sides of your extended leg.

If you are stiff and have difficulties, you can use a band to catch your foot and pull yourself in, but the band should be around the heel, not the toes. Better even, have a partner help you as illustrated, in the passive assisted version of the drill.

#### Key points:

- Do not pull on your toes, as it will limit the hamstring stretch. This is a different stretch. Relax the feet and pull on the heels.
- Elongate your spine as you bend down; try to reach not only down but far.
- Concentrate on the hamstring and make sure you feel its stretch.

Yoga's Janu Sirsasana. Start gradually with a partner help if necessary



Do not pull on your toes, but your heel



## Two Legged Sitting Bends

This is now the classic Yoga pose Paschimottanasana, with emphasis, this time, on the hamstring stretch, not on the toes. Refer to page 116 and the previous page. Sitting with extended legs, bend forward and strive to reach the knees with your chin. Pull on your lower legs, ankles or feet if necessary, but not on your toes. Keep your feet relaxed and concentrate on the hamstring stretch. Exhale and tuck your belly in for more reach. Like in the previous exercises, use a band or a partner to help you gradually improve.

### Key Points:

- Feet relaxed, not flexed
- Legs completely straight and together
- Elongate the spine as you bend down

Yoga's Paschimottanasana. Also passive assisted



“Do not pull on your toes, but the heels or the plants of the feet”



## Open-legged Sitting Bends

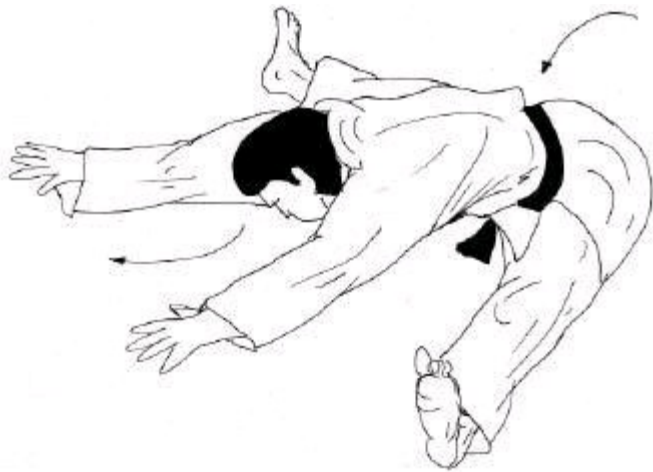
This is Yoga's Upavistha Konasana, the open legged version of the previous stretch. This is a great stretch in which the belly does not limit the range of the stretch as it is not hindered by the thighs. Sitting on the floor with the legs opened, you simply bend towards the floor, striving to reach the floor with the chin, as far as possible. As per your personal preferences, your hands could help “pulling” on the floor in front of you, as illustrated, or “push” from the feet. The more flexible trainees will strive to place the whole upper body in contact with the floor.

### Key Points:

- Legs straight and feet relaxed
- Open legs as wide as naturally possible, but without stretching out more, in order to concentrate on the hamstring. Stretching wider will also stretch the adductors which we do not emphasize now.
- Lengthen your spine as you bend down.



Yoga's Upavistha Konasana. Reach as far as possible between your straight legs



Strive to place your whole upper body in contact with the floor



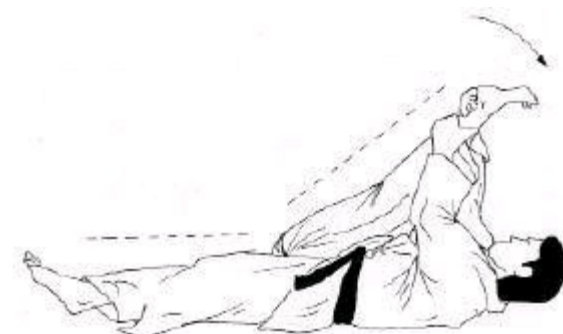
## Lying Leg Pulls

This is, again, simply the “hamstring version” of the previously encountered Supta Padangusthasana of Yoga. Please refer to page 118. This time though, you will pull on the ankle or the heel of the stretched leg, not the toes. Lying down on your back, you will strive to pull in the knee of one leg towards your nose. You must keep your back and the other leg straight and on the floor. Switch sides.

### Key points:

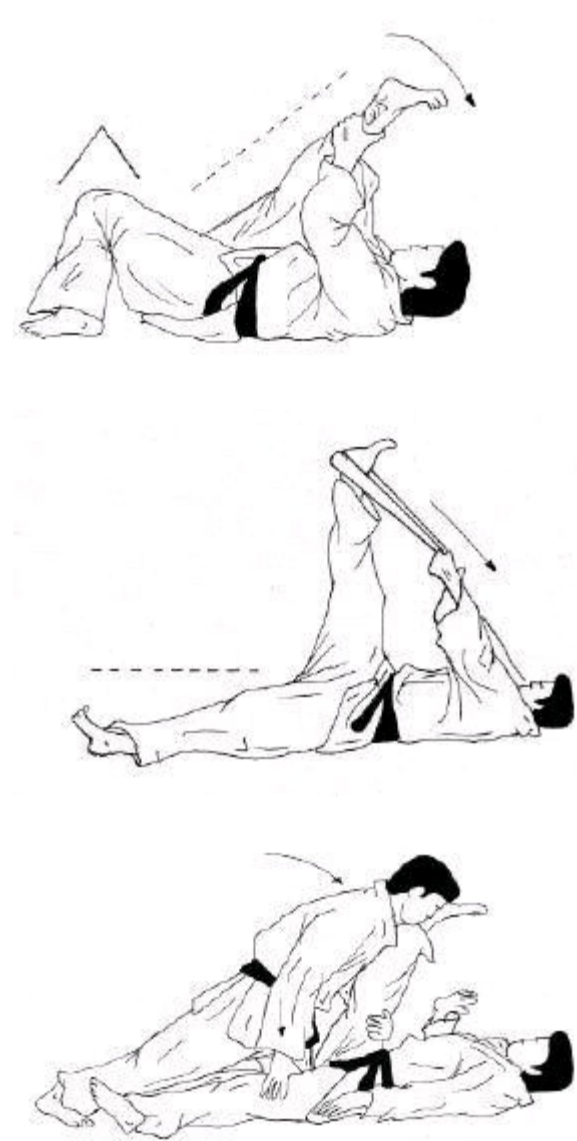
- Both legs must be totally straight
- Back and second leg must be on the floor at all times
- Do not lift the head or curve the back

Yoga's Supta Padangusthasana. Pull in the straight leg to your nose



If you are stiff, it is recommended you proceed gradually and carefully: 1) Pull the straightened leg in, but with the other leg bent. 2) Use a band to pull the leg in. 3) Have a partner assist you in passive stretching.

Proceed gradually and carefully into the stretch



Pull on the heel, not the toes



## Standing Elevated One Legged Bends

This is a classic relaxing hamstring stretch widely used by joggers and bicycle enthusiasts. You will execute it with more intent and concentration to elongate your hamstrings. With one leg elevated on a table, dancing bar or other prop, or even held by a partner, you bend down towards your straightened knee. Make sure both legs are totally straight and adjust the leg elevation to your proficiency. Switch

legs.

### Key points:

- Both legs straight
- Elongate spine as you bend down
- The standing leg should be about vertical for this stretch. Do not go for a splits-like position; if easy, you should elevate the leg more.

Strive to place your chin onto your elevated knee



## Standing Front Bends

### Front Leg Bends

Yoga's Parsvottanasana is the simple bending over the straightened front leg. Simple it seems, but a great hamstring stretch it is. Switch legs.

### Key Points:

- Both legs are straight
- Elongate your spine as you bend down
- Concentrate on your hamstrings

Strive to place chin on knee of straightened front leg



There are variations of the pose with different placement of the arms. You can place the back of the hands on the floor as far as possible rearwards (See below). You can also interlace your fingers behind the back and lift the arms as high as possible.

Yoga’s Parsvottanasana



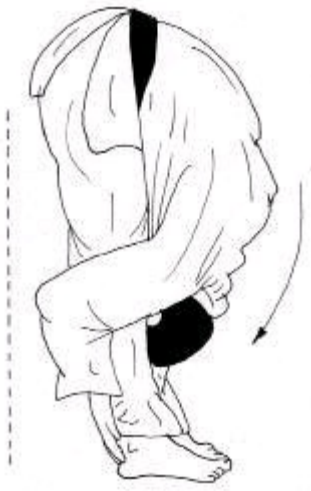
# **Classic Front Bends**

Yoga’s iconic Uttanasana, concentrating on the hamstrings, not the lower leg.

## **Key Points:**

- Legs totally straight
- Catch your ankles and pull in
- Elongate spine as you bend down
- Concentrate on hamstrings
- Breathe while stretching

Yoga’s Uttanasana



Here are the drills recommended to gradually achieve Uttanasana:

- 1. Strive to touch the floor with your fingers (then hands) while keeping the legs and back straight



- 2. Place your hands on the floor, with knees bent. Gradually straighten your legs while keeping the palms of the hands on the floor.



- 3. Execute the pose with the hands on the floor



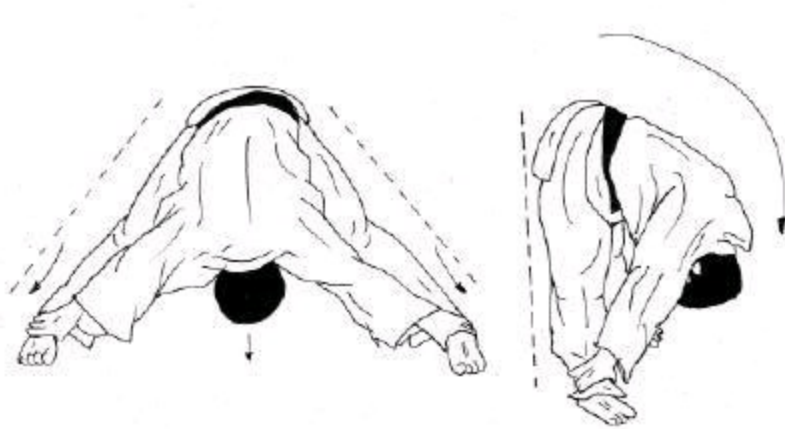
## Open Legs Front Bends

Yoga's Prasarita Padottanasana. Bending forward with wide-open legs.

### Key Points:

- Legs straight
- Concentrate on the hamstrings
- Elongate the spine and strive to reach the floor with the top of your head

Legs wide open, bend forward in between and pull yourself down



## Front Splits

The Front Splits are an iconic difficult pose that can serve as a goal to strive to reach. The Yoga version is called Hanumanasana. Its importance for high kicking is obvious, less so its importance to fast kicking. The pose stretches much more than the hamstrings, and it is important to concentrate on the hamstrings of the front leg for progress in the drill. The front splits also stretch, among others, the adductors and the quadriceps of the rear leg; they are a very complete exercise.

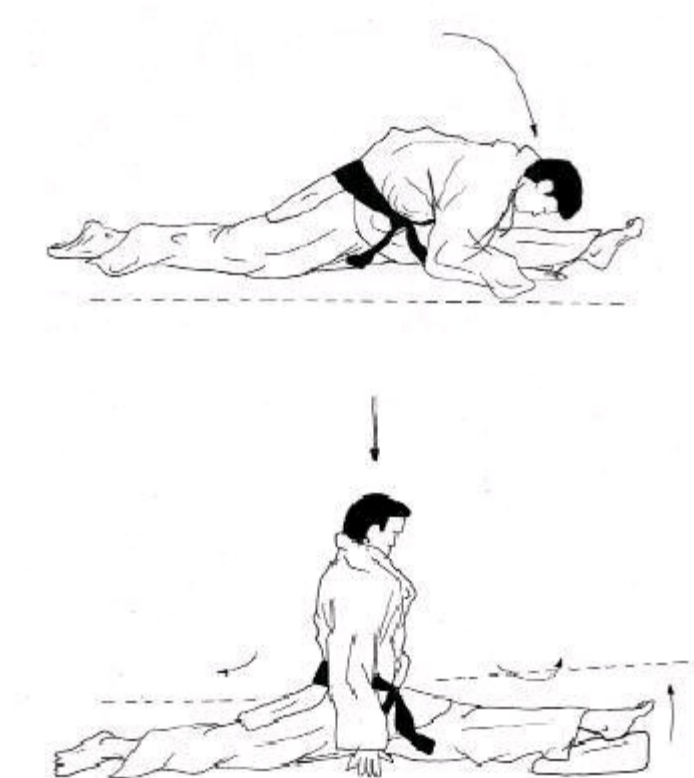
The position to achieve is illustrated at right top. Proceed very gradually and carefully, using your hands on the floor to control the stretch: This is a difficult and dangerous exercise.

Once you can routinely take the position easily, it is time for more challenge. Right center shows how you should bend forward and aim your chin towards your extended knee for more hamstring stretch. Right bottom shows the use of a cushion to elevate the front leg a bit more, for more hamstring stretch. Proceed carefully.

The Front Splits: Yoga's Hanumanasana



More challenging Front Splits



Use your hands to control your careful descent into the splits



**Assisted Standing Splits**

This is a classic Martial Arts stretch, commonly practiced in many schools. This is not fully a passive stretch, but more of an assisted partially active stretch: You do some of the stretching yourself, though with the help of an experienced partner. There are two ways to execute the drill and you should work out both.

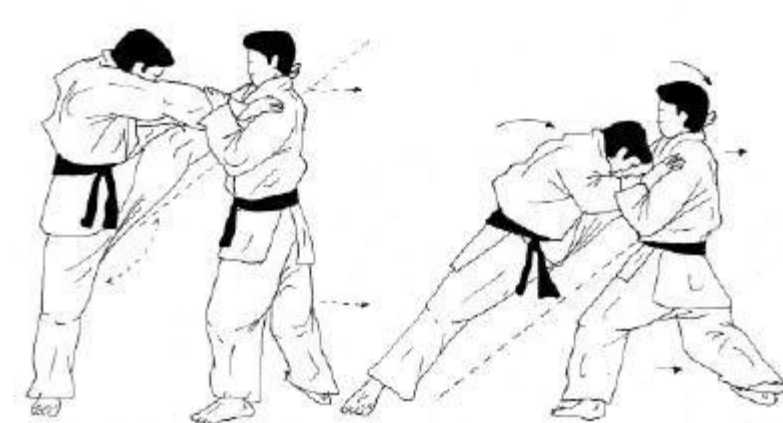
## Upward Assisted Standing Splits

With one foot on your partner's shoulder, or in the crook of his arm if you are stiffer, you let him retreat slowly while your other foot stands in place. Bend over your straightened leg, keeping hold of your partner at all times. All stretching principles apply: Take the position slowly and gradually, then hold it for 20 seconds. Release slowly.

### Key Points:

- Both legs perfectly straight
- The elevated leg is turned perfectly straight, knee pointing upwards, for hamstring work
- Hold your partner at all times

The classic Upward Assisted Standing Splits



## Downward Assisted Standing Splits

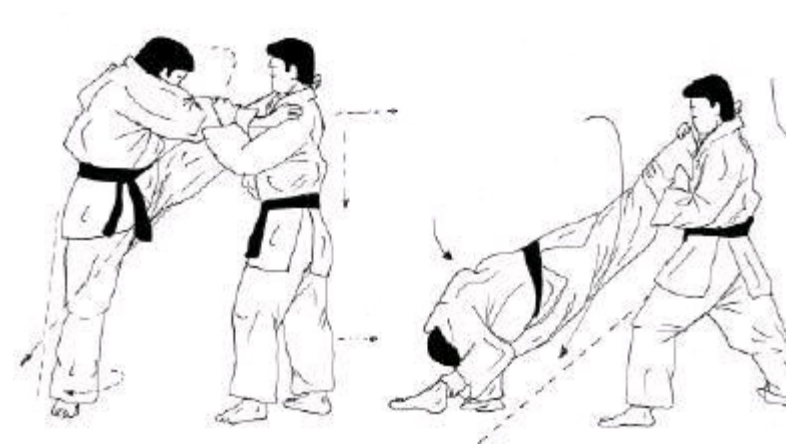
In this other classic Martial Arts stretch, you will bend over the standing leg while your elevated foot stays on your partner's shoulder. As he slowly retreats, you pivot on your standing leg to position the knee upwards, and bend over. Carefully.

### Key Points:

- Both legs straight
- Make sure standing leg's knee points upwards
- Use hand on the floor for confidence building and safety.

The downward version of the Assisted Standing Splits. Use experienced partner only





## Heron's Pose

Heron's pose ( Krounchasana ) is a classic Yoga pose that also works on balance, but we shall concentrate here on the hamstring stretching emphasis. The fact that the leg is stretched in a sitting position works the muscles slightly differently. Sitting on one knee, with the other leg extended, you pull up the extended leg towards your nose. See below right and work with the proper methodology.

### Key points:

- Do not concentrate on the balance side of the drill; you can keep one hand on the floor
- Bring the knee to the chin, not the head to the leg

Yoga's Krounchasana



If you have difficulty sitting on your knee for reasons of flexibility or balance, you can start the stretch while sitting with one leg bent, as shown below.

The preparatory version of the Heron pose



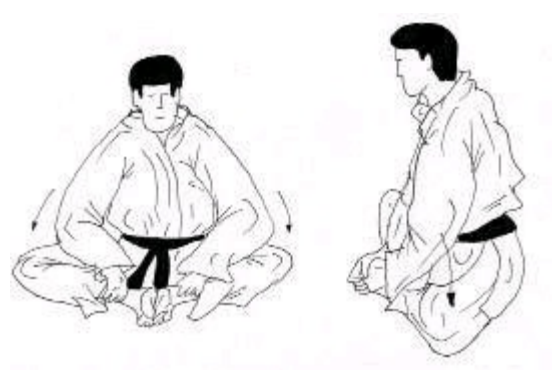
# Chapter 11: Adductors Training

The connection between adductor flexibility and high kicks is obvious. There will be no high kicking, and especially no fast high kicking, without adductor flexibility. Side Kicks, roundhouse Kicks and Hook Kicks will gain in speed with more flexibility. But results will come only after sustained methodical training.

## Cobbler

The well-known “Cobbler Pose”, illustrated below, is called in Yoga Bound Angle Pose (Baddha Konasana). It is a very important position for an area difficult to stretch. Use your elbows to press down the knees. The trainee is encouraged to sit in this position, with no extra effort, when he has idle time; just sit. When practicing, the same efforts and methodology as before are of course, warranted.

Yoga's Baddha Konasana – Cobbler's pose



The stiffer trainee can start gradually with pillows under his knees for gradual introduction to the stretch.

Cushions will help get gradually into the pose



Both beginner and advanced artist will benefit from a partner's assistance.

The passive assisted version of the stretch



The more flexible artist will also drill the more advanced versions of the posture: leaning in front and lying down. The “Lying Cobbler Pose” (Supta Baddha Konasana) works the stretch in a different way and is recommended as a separate drill, both in its active, passive and passive assisted version.

If flexible enough, execute the stretch while bending forward



Yoga’s Supta Baddha Konasana; execute normally and passive assisted





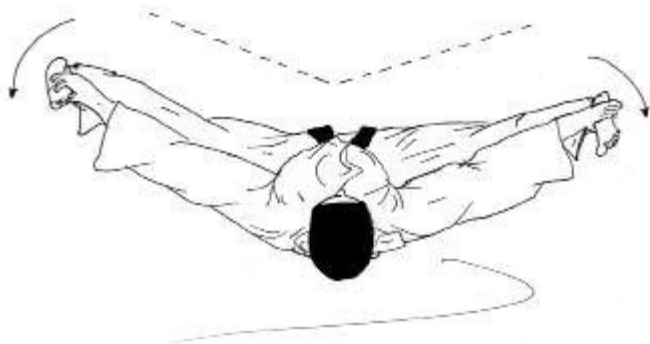
## Lying Wide Stretch

This drill is a “light” version of Yoga’s Supta Konasana. Lying on your back, you lift both legs straight and open them as wide as possible. You then catch your feet, preferably the heels, and proceed to pull both straightened legs apart and towards the floor. It is important to execute the drill with straight legs; if you are stiff, do use bands to catch your feet as illustrated below right.

### Key Points:

- Both legs straight
- The back and head stay straight on the floor. Do not try to reach out.
- Pull the feet towards the floor

Yoga’s Reclining Angle Pose. Proceed gradually, with bands if needed



Keep your back on the floor; do not go into “Plough Pose” and concentrate on your adductors



## Sitting Wide Stretches

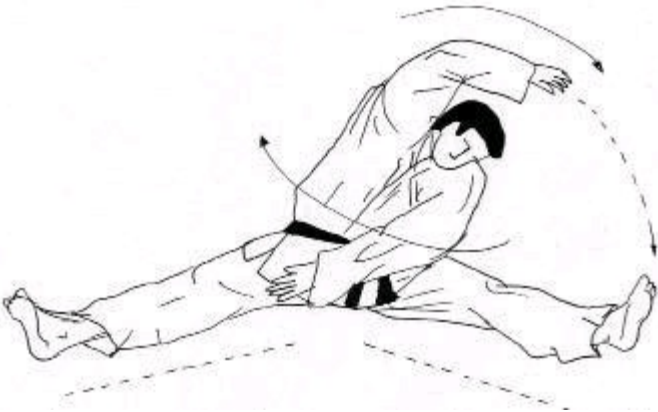
### Sitting Wide One-Leg Side Stretch

This is Yoga's Parivrtta Upavistha Konasana, a very important overall stretch. You sit with your legs opened as wide as possible. Always try to go a bit more forward with your sit bones in order to start from the widest stretch possible. Bend sideways, trying to reach your toes with the opposite hand and from above your head. Proceed gradually and carefully, and, in the end, you should be able to assume the pose illustrated at bottom.

#### Key Points:

- Legs straight and spread as wide as possible
- Bend sideways only. Resist twisting the body.
- Try to catch the toes with both hands while staying fully sideways

Parivrtta Upavistha Konasana, Yoga's Revolved Seated Angle Pose. Proceed gradually



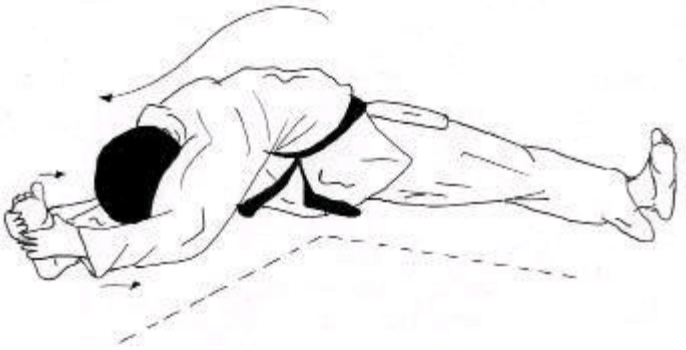
# Sitting Wide One-Leg Front Stretch

Yoga's Parsva Upavistha Konasana is easier than the previous posture, but no less important. It is again of primary importance to assume the widest possible sitting stance. Stretch open and then bend straight over one of your legs, aiming for the knee with your chin. Both legs as straight as possible! Switch legs.

## Key Points:

- Legs straight and spread as wide as possible.
- Elongate the spine when bending
- Concentrate on the adductors and relax

Yoga's Side Seated Angle Pose. Open legs as wide as possible...and a bit more



Elongate the spine while bending down into position



# Sitting Wide Middle Stretch

Yoga's Upavistha Konasana, the all-important "Seated Angle Pose". This posture is extremely important for high kicking and requires a lot of training. Sit with your straight legs stretched as wide as possible. Use your hands to pull the sit bones even more forward. Then proceed gradually as illustrated. Bend forward slowly and spread your hands forward to your maximum. Relax and stretch

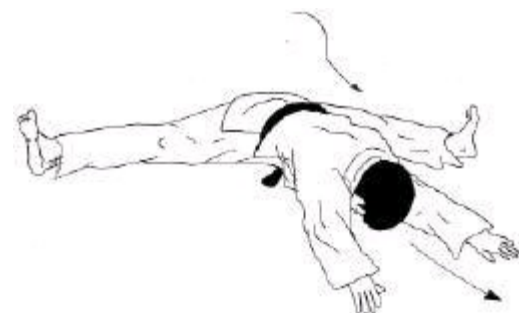


as per our methodology. You should finally be able to lie with your hands spread forward and your sternum on the floor. When you are comfortable with this position, you can then try to spread yourself even more on the floor and catch your feet with your hands.

## Key Points:

- Legs straight and spread as wide as possible
- Elongate the spine during the stretch
- At your maximum, lift the chin

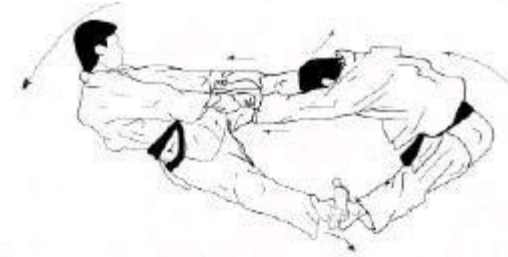
Yoga's Upavistha Konasana. Proceed gradually as described



In order to make progress with this very important exercise, it is recommended to get help from a partner. There are two Passive Assisted versions of the stretch very much in use in Martial Arts training halls: Either your partner pushes your lower back down and forward (below top; or he pulls you forward by your hands while spreading your legs with his (below bottom).

A partner will help you progress in the stretch





## Lying One-Legged Stretch

Lying on your back, you move one straight leg to the side, slowly and keeping in contact with the floor. Catch your heel with your hand and pull the leg up towards you while keeping it on the floor. The other leg stays straight and in place. The Rest of the body stays straight and on the floor. Switch sides.

### Key Points:

Legs straight.

The back, the head and the legs stay in contact with the floor

Try to keep the body straight and immobile

Do not stretch in a way that will lift the leg from the floor

Concentrate on the adductors.

The Lying one-legged stretch: The whole back of the body stays in contact with the floor at all times



## Frog

This is a simple and relatively easy drill: Practice it often and strive for maximum stretch. With the feet pointing outwards, lower your sit bones as much as possible and place your arms between your open knees. In this position, you must already feel the adductors' stretch. You then use your elbows to open your knees even wider. Go for the maximum. This drill lends itself easily to slacking.

### **Key Points:**

The stretch comes from the combination of the lowering of the bottom and the opening of the knees. Perform both consciously at the maximum

Concentrate on the adductors

Try to keep the upper body straight

Push the knees open and lower yourself as much as possible



Push your knees open with your elbows while sitting as low as possible



## **Side Splits**

The iconic Side Splits are the natural continuation of the Sitting Wide Stretches. Keep moving the hips forward with feet stuck to the ground. Gradually! Be extremely careful with this position. The best drills to progress towards the Side Splits are the Sitting Wide Stretches and the Assisted Side Kick Stretch presented later on.

### **Key Points:**

Straight legs

Feet flexed

Body straight

Side Splits



## Assisted Roundhouse Chamber

The “Assisted Roundhouse Chamber” is of course highly recommended for a high or fast roundhouse, but not only. It is the drill we have already seen in Dynamic Stretching, but executed as per our static (passive) methodology. It is best to execute the drill in full guard and fighting chamber position. If you are stiff or have balance difficulties, you should lean on a wall, but try to keep as erect as your flexibility allows.

### Key Points:

- Keep your upper body straight; do not lean.
- Concentrate on the adductors
- Standing leg must be straight

Your partner lifts the chambered knee. Lean on a wall if necessary





Assisted Roundhouse Chamber Stretch



# Assisted Side Kick

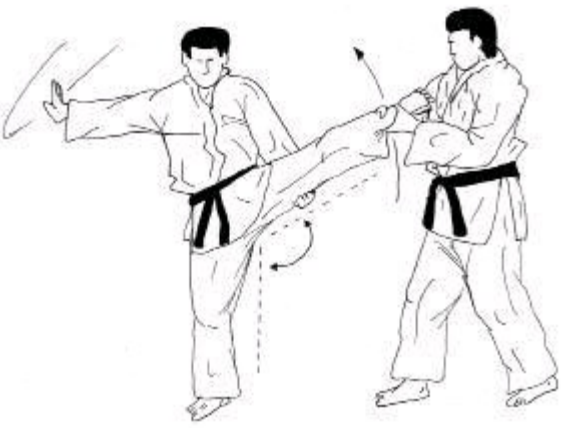
This is basically an assisted standing “Side Splits”, but with emphasis on the specific kicking posture. An important exercise to be drilled carefully with an experienced partner!

Start gradually with a simple lifting of the leg while you lean on a wall for safety and balance (1). You can later place your foot on his shoulder and let go of the wall (2). The position you should strive for is illustrated by Figure 3.

## Key Points:

- Both legs straight
- Concentrate on the side kick position; body, hips and legs in line
- Make sure your partner will release the stretch as soon as you signal him

Proceed gradually towards standing side splits



Foot on shoulder in Side Kick Position



# Chapter 12: Quadriceps

Quad flexibility is important for overall speed, for back kicks and all sorts of spin-back kicks. It is also a very busy muscle in all kicking maneuvers and stretching will promote speed and injury resistance.

Back Kick



## Standing Quad Stretch

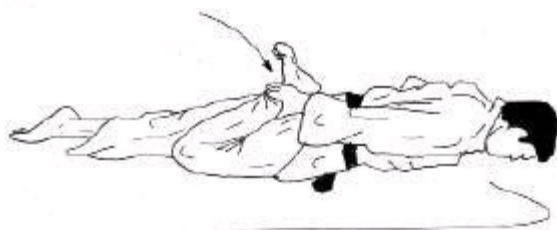
This is a simple, classic, but often neglected stretch. Used as a cool-down light stretch, it should be worked upon seriously and methodically by the serious artist. Quads are often neglected in stretching routines, undeservedly.

The Standing Quad Stretch is the simple pulling of the heel towards the buttock (1). The feel of the quad stretch is very clear, and it is important to go as far as possible each time: it is not a relaxing exercise but a full stretch by itself. If you encounter some difficulties in executing the stretch, there are two preparatory versions to drill, illustrated in Figures 2 and 3: using a wall for balance and executing the drill lying on the floor.

### Key Points:

- Concentrate on the quadriceps, feel the stretch
- Treat it as a challenging stretch and go as far as possible, as per our stretching methodology.
- Keep the thigh vertical and in contact with the standing thigh.
- Keep the body straight, no leaning.

The Standing Quad Stretch and its preparatory versions



Once you perform the stretch routinely and easily to its maximum, there are three variations you can execute from time to time:

- a. Pulling the opposite foot, i.e. the left foot with the right hand and vice-versa. It stretches the quadriceps a bit differently.



b. Using a wall to push the heel towards the buttock in order to go further. You use your body weight to stretch further.



c. Using a table, a high stool, or the saddle of a stationary bike to push the foot toward the buttock. The principle is the same as b) , but you lean down as well as back with your body weight.



Once you have mastered the basic stretch, you should move the thigh around, as in photos below, for



joint flexibility and to look for the position you should most stretch in: “where you feel the stretch more!”. For example, you can make the stretch more challenging by lifting the thigh back.



## Kneeling Quad Stretch

From a one-knee stance, you grab your rear ankle with the same-side hand and pull your heel towards your buttock. You lean forward and deepen the lunge for a longer stretch. If the floor is hard or your knee is sensitive, place a towel or a cushion under the knee.

### Key Points:

- The lunge, i.e. the opening between the legs, must be as deep as possible.
- Concentrate on the quad being stretched.
- Lean forward and lower your hips

Stretch the quad in deep lunge



Use a towel or cushion to prevent knee stress



## Reclining Hero Pose

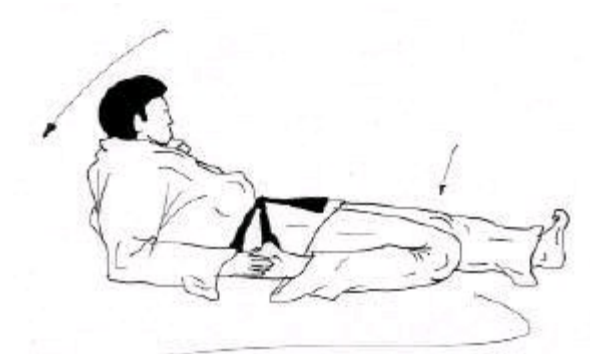
The “Reclining Hero Pose” ( Supta Virasana ) has been mentioned in the lower leg stretching section (Chapter 9). It is also an extremely effective, but difficult, quad stretch. It is highly recommended but must be approached very gradually because it strains the knees; the sit bones lie between the knees. Once it has been mastered, it is a great posture, increasing flexibility in the whole of the front leg.

Caution: proceed extremely carefully and gradually from the simple “sitting on your knees-pose. The progression, illustrated below, should be: one-leg stretch reclining on elbows, both-legs stretch reclining on elbows, and the final both-legs back-on-the-floor posture.

### Key Points:

- Concentrate on the quadriceps
- Strive to place the whole back in contact with the floor.

Getting gradually to Supta Virasana



# Chapter 13: Glutei and Hip Belt

The buttocks and hip joints are obviously a part of fast and good kicking. Good posture and technical delivery will all be influenced by their flexibility. These muscles' tonus will also be critical in one's ability to position oneself for a decisive kick.

A downward Back Kick, and a good reason for hip belt flexibility



## Deep Step

The “Deep Step” or “Low Lunge” stretch is very important and must be drilled as a full-fledged stretch, not as a relaxing or cool-down exercise. Called Anjaneyasana in Yoga, it must be taken to the limit each time, and then a bit more.

You simply take a deep lunge position with one leg extended straight behind you. Push the hips forward and feel the hip joint and the quadriceps being stretched. In Yoga, you generally extend the hands over your head, pointing at the sky. In our case, it is enough to let the arms dangle at the side; just make sure your body is straight and vertical and that you do not use the hands to resist the stretch. Switch legs.

### Key Points:

- Extend the leg back as far as possible
- Bend the front leg by pushing the hips forward
- Keep the upper body straight and vertical, or even bending slightly backwards
- Concentrate on the hip joint

Anjaneyasana, push the hips forward



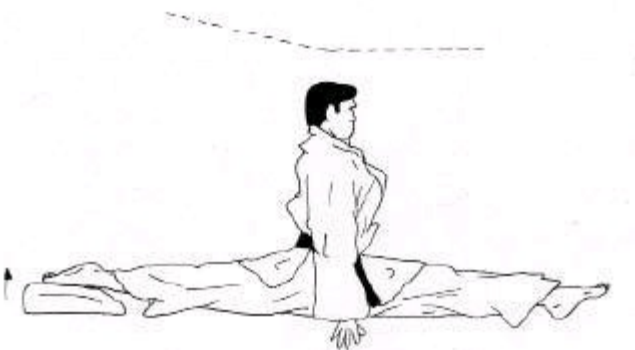
When proficient, try to curve the back and elongate the spine for a more challenging stretch



## Splits

We have already encountered the (Front) Splits. The splits are a very complete stretching exercise, putting in play many of the muscles group. There are two ways to further stretch the hip joints presented in here. Use a pillow or folded towel to increase the height of the rear or the front leg. Of course, to do so, you need to master the classic Front Splits first. Proceed carefully and gradually. Do not forget to practice both sides by switching the leg in front.

The “enhanced” Front Splits





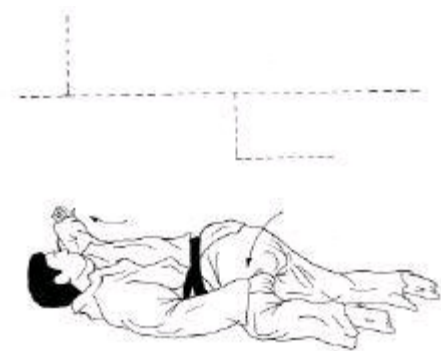
## Lying Knee Twist

This is a well-known cooling down pose to be drilled as a full-fledged stretch. Lying on your back with one arm extended sideways, you push the knee of the extended hand side towards the ground, while keeping your back, extended arm and extended straight leg on the ground. It is easy to understand from the illustration below.

### Key Points:

- The shoulders and back stay straight and in contact with the floor
- Keep the extended hand on the floor and perpendicular to the body.
- Use the other hand to push the knee towards the floor.
- Look towards your extended hand

Rotate the hips, not the trunk!



## Lying Leg Twist

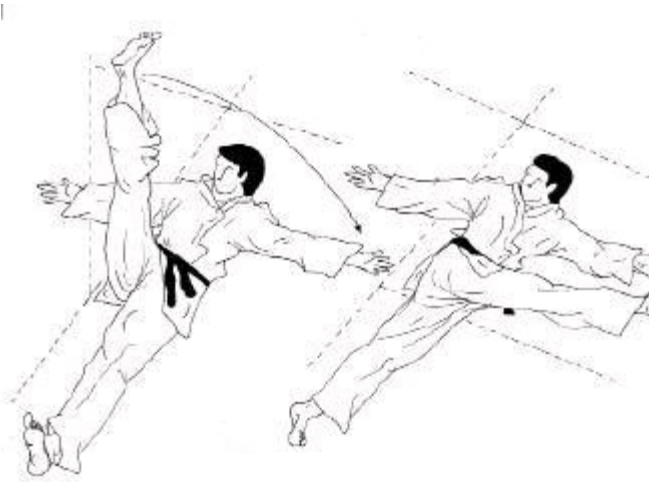
This is Yoga's Eka Pada Jathara Parivarttanāsana, also a pose often used during cool down of Martial Arts classes. It is an important stretch to drill and bring to the limits of flexibility.

Lying on your back in a cross-like position, you lift one straightened leg and let it fall towards the extended opposite hand. Proceed slowly and carefully and keep your shoulders and back on the floor. Maintain the position while striving to have as much back in floor contact as possible. Switch sides.

### Key Points:

- All body parts are perpendicular to one another
- Shoulders, extended hands and back in contact with the floor at all times
- Both legs fully straight
- Look to the opposite side of the foot
- Strive to place the foot in the palm of the hand

Eka Pada Jathara Parivartanasana, Yoga's One Leg Revolved Belly Pose



# Waist Twist

Yoga's Eka Pada Parivrtta Upavisthasana. Sitting with one leg straight and the other bent and crossed over the other, you twist your upper body to the side of the bent leg. Use your elbow to maintain and go further in the pose. The illustration below makes the pose clear.

## Key Points:

- Keep the upper body straight and vertical.
- Your sit bones and extended leg stay on the floor at all times

Eka Pada Parivrtta Upavisthasana, Yoga's One Leg Revolving Seated Pose

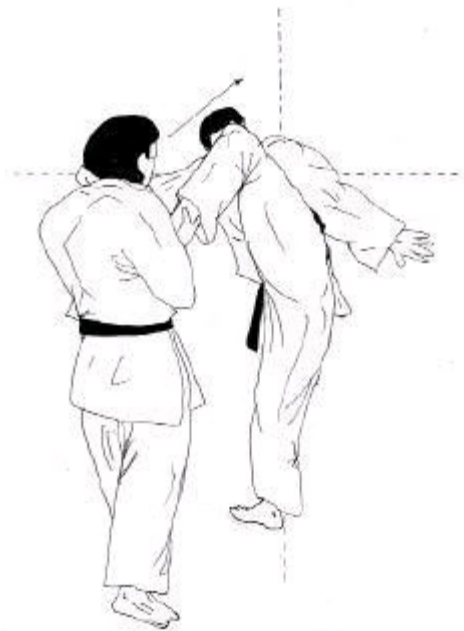


# Side Chamber Assisted Stretch

This is a classic of martial arts training halls. Just make sure you practice the stretch with the right methodology, as a full-fledged stretch. Go a bit further each time and concentrate on the muscles stretched. This is, of course, a passive-assisted stretch.

As shown, lift your leg in Side Kick chamber with your back to a wall. Your partner will grab your foot to push your knee both up and towards your face, stretching a whole set of muscles and joints. Have him proceed gradually and carefully. Switch legs.

Side Kick chamber- Passive assisted stretch



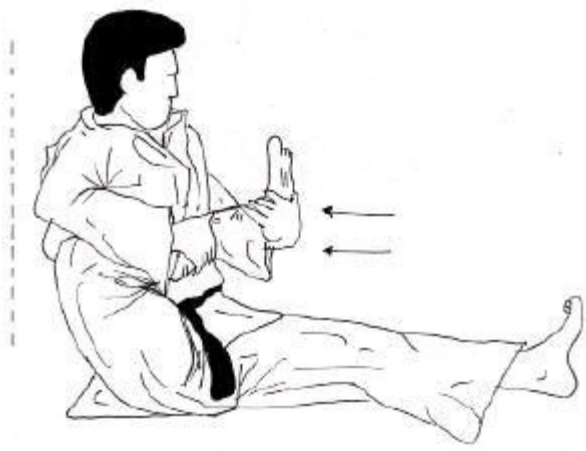
## Bent Leg Pull

This is a very simple and natural exercise that you can execute sitting or lying down. You simply pull your foot towards your upper chest or face, like you probably used to do as a small child. The very flexible can aim to place the foot behind the neck. Use both hands to pull the leg in and make sure your back is straight. Figures 1 and 2 illustrate respectively the sitting and the lying version of the stretch.

### Key Points:

- The back is straight at all times, whether sitting or lying
- Do not go towards the foot with the body; pull the foot in without moving the body
- If possible, lift the leg towards the face

Pull the foot towards the face with a straight back. Sitting up or lying down.



Lying Bent Leg Pull



## Runner’s Stretch

The well-known “Runner’s Stretch” is called in Yoga: Supported Pigeon Pose ( Salamba Kapotasana ). The full Pigeon Pose ( Kapotasana ), -in which the hands are lifted towards the sky and the body curves back-, is less relevant to our purpose.

The figure below shows how the front leg is bent, the rear leg is extended and the upper body is straight and vertical. The more flexible you are or you become, the more “open” the straight leg should be, up to 90 degrees. Support yourself with your hands for control of the stretch.

### Key points:

- Make sure your buttock lies on the floor and does not “hang” in the air.
- The wider the knee angle, the more the inner leg muscles are stretched (and the less the gluteus)



Yoga's Salamba Kapotasana. Sit on your hips



Bend forward in "Pigeon Pose" and try to reach as far as possible"



Runner's stretch: start up as straight as possible; then bend down as low and as far as possible



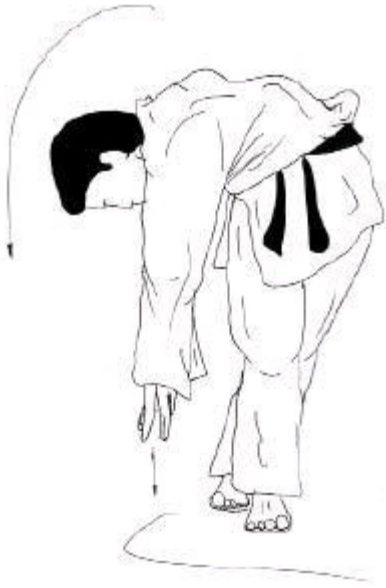
This is an extremely beneficial stretch for overall flexibility and well-being. To be practiced often, but while concentrating on the buttock's muscles and adjoining joints.

## Cross Side Bends

Easy but often neglected. It should be treated as a full-fledged stretch and one should strive to go lower and lower each time. You simply cross your straightened legs in a standing position and bend to your side. You are aiming the hands to the floor on the side of the blade of the front foot. Keep your legs straight. Just for balance, as it is not a hip belt stretch, bend then on the other side for relaxing the muscles. Then switch legs and cross them with the other leg in front.

You can progress towards the stretch, or warm up, by doing the bend with legs un-crossed first. Then execute the stretch by bending on the side of the crossing front leg. Bend on the other side to relax.

Bend sideways with legs crossed. Feel the stretch



Warm up uncrossed, Stretch, Bend the other way for release



# Chapter 14: Abdominals

The whole body is held together by the abdominal belt. It is, needless to tell the experienced artist, the key role played by the “tanden” of Karate or “tan tien” of Kung Fu. Successful kicking involves the whole body and its maximum use. This will only be possible with a strong and flexible abdominal belt. Strong abdominal muscles-building must be accompanied by flexibility training, just like any other muscle.

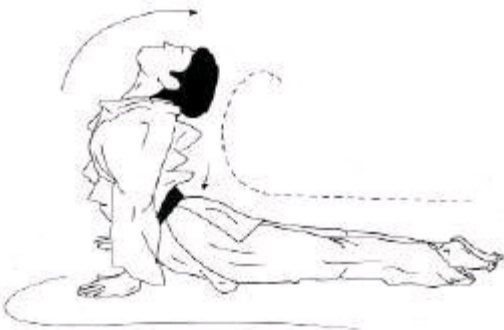
## Cobra Stretch

Yoga’s iconic Bhujangasana, Cobra’s Pose is a great stretch for the abdominals and the lower spine. Execute carefully.

### Key Points:

- Keep and push the hips on the floor; arch the back from the belt up.
- Push on the hands carefully and gradually.
- Look up at the ceiling

Cobra’s pose. Keep the hips on the floor



Cobra’s Pose: Look at the ceiling but keep belt knot on the floor



In order to progress, whether you are stiff or flexible, you can execute the passive-assisted version of the stretch, as illustrated below. The key points stay the same.

The assisted version of Bhujangasana



There is an assisted version of the “inverted” pose that is noteworthy. Once you are proficient in the Cobra Pose, it is beneficial to practice very carefully. See below and execute with an experienced partner only!

The inverted Cobra Stretch – assisted. Drill with extreme caution.



## Camel Stretch

This is also a classic Yoga Pose to be drilled seriously: Ustrasana, the Camel’s Pose. On your knees, you simply bend back and place your hands on your heels or the plant of your feet. Work according to our stretching methodology.

### Key Points:

- Place the hands on your feet, then start pushing the hips forward and the chest up
- Try to look back
- Proceed gradually

Camel’s pose to stretch the abdominals and the spine



If you are not flexible enough, sit on your toes and try gradually to reach the heels, as illustrated in Photo 1. Then gradually try for the soles of the straightened feet (Photo 2).

Proceed gradually from a heels-up position



## Balance Stretch

Yoga's Bow Pose, Dhanurasana, is a great stretch for the shoulders, the spine and the abs. Lying prone on the floor, you catch your ankles with your hands and pull yourself up. You look forward while using your legs and arms to arch your back as far as possible.

### Key Points:

- Concentrate on the abdominal stretch
- Open the legs, not the knees, for a deeper stretch
- Lift the head for a deep abs stretch

Yoga's Dhanurasana, the Bow. Pull yourself up to your maximum



The Bow; pull and look up



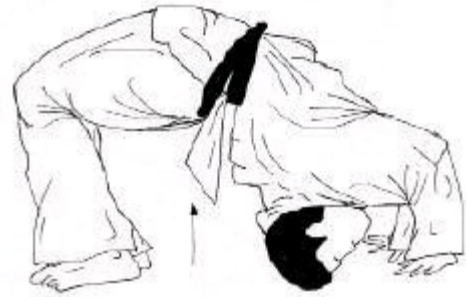
## Bridge Stretch

This is a well-known exercise, especially by wrestlers and gymnasts, but it is also a basic Yoga posture named: Sirsa Setu Bandhasanasana. Remember we consider it here as an abdominal stretch and therefore you should concentrate on the maximal arching of the back.

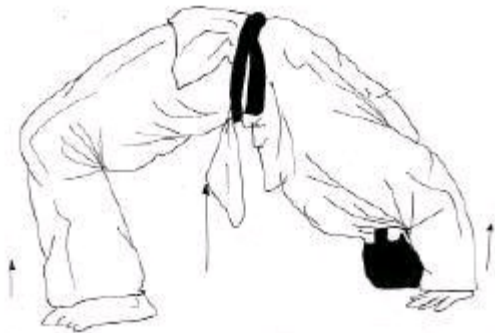
### Key Points:

- Start with hands as close as possible to the shoulders
- Start with feet as close as possible to bottom
- Be extremely careful with neck position
- Use back muscles to arch, not only arms and legs
- Concentrate on the abs stretch; arch as much as possible, including the neck

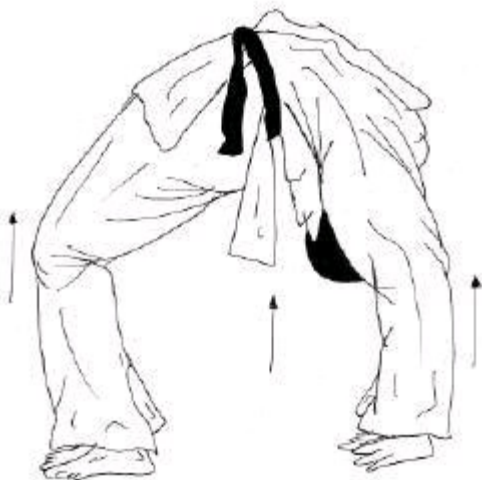
Figure 1 shows how you lift yourself from prone position on your hands and feet. Arch the back, and then place your head on the floor for the bridge pose (Figure 2).



Lift the bottom up and arch your back to stretch the abs in Yoga’s Sirsa Setu Bandhasanasana



The challenging Inverted Bow Pose



When proficient and flexible enough, you can proceed to the more challenging “Upward Bow Pose”: Yoga’s Urdhva Dhanurasana. From the Bridge Pose, you strive to straighten the arms and legs for an extended arching of the back and more frontal stretch. Proceed carefully, with assistance, and make sure you do not fall on the head when releasing.



# Chapter 15: Lower Back and Laterals

The lower back and laterals are part of the abdominal belt mentioned above. Everything said in the introduction stays true. On top of that, the lower back and laterals are key engines in the execution of circular and spinning kicks. The exercises presented below, sometimes neglected, are very important to the Martial Artist. It is recommended to introduce at least two of these Upper Body Stretches into your Flexiometric Routine.

Special Kicks are especially demanding for the abdominal belt, the lower back and the laterals



## Standing Bends

We have already encountered the standing bends in Chapter 10, as a hamstring stretch. The drill is the same, but you need to maximize the spine elongation and concentrate on the lower back. A preparatory exercise, in order to learn to differentiate between the hamstring and the lower back emphasis, is presented below: Bend over your straight legs until your trunk is parallel to the ground; elongate your spine.

### Key Points:

- As mentioned, concentrate on the lower back stretch
- Elongate the spine and try to reach as low as possible with the chin on the legs
- Go for reach, not bend

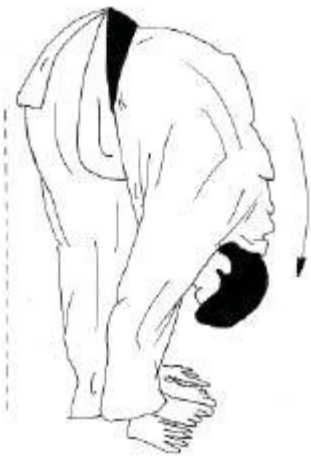
Bend to 90 degrees with legs straight. Stretch the spine





The progression to the classic Front Bend





Once step 1 is going well, you should proceed with the regular front bends.

## Plough

This is again a classic Yoga pose, Halasana, well-known as the ultimate spine stretch. Lying on your back, you simply lift your straightened legs over your head until the feet touch the floor. This is also a neck stretch and you have to proceed very carefully with this area.

### Key Points:

- Concentrate on the spine and lower back
- Do not try to go further back with the feet, as it sways the stretch towards the neck

The Plough. Yoga's Halasana



The position is not easy and needs to be approached gradually. It also restrains somewhat the ability to breathe, and, as such, is a great drill for wrestlers and grapplers. There are several ways to approach the final pose:

a. Execute with open legs. This is Yoga's Supta Konasana or the Reclining Angle Pose, although it is usually practiced with the widest possible leg opening which is not our purpose here. Here, we shall try to make it an easier "Plough" pose, and a pose that does not restrict breathing as much. Once you have mastered it, you should gradually close the legs.



b. Another way to ease in into the pose is to execute it with one leg; easier to perform and easier to breathe. When you become proficient, use it to ease into the final "two-legs" pose.



c. You can also use a prop for the gradual stretching of the spine: Use a chair (eventually with a towel or a cushion) to support your feet above the ground. When you become proficient, gradually lower the height of support with other props until the feet reach the ground comfortably.

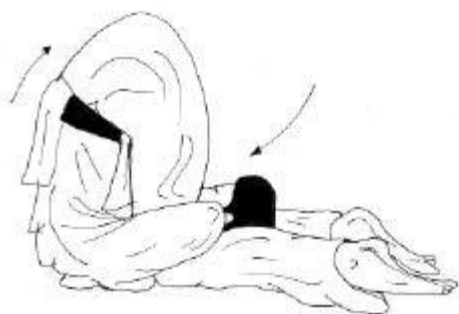


This is an important drill and you should do everything possible to become able to hold the pose. Once you do and become more proficient, there are two variations of the pose that will stretch your spine even more.

Supta Paschimottasana, or “Lying Down Westward Pose”. From the Plough Pose, you lower your sit bones towards the floor and grab your feet to pull your knees towards your head. The legs are straight, and it is as if you fold yourself straight in two. This is stretching the lower back even more. Execute as per our agreed methodology.



Karnapidasana, or “Pressure on the ears-Pose”. From the Plough Pose, you bend your legs and lower the opened knees on the floor as close as possible to the ears. Catch the back of the knees with your arms and “round” yourself as much as possible. Proceed carefully, especially with the neck joint.



## Sitting Side Bends

This is basically the same pose as the “Sitting Wide One-leg Side Stretch” presented for adductors work. This time though, the emphasis is on the laterals and the legs need not be stretched open at their maximum. You should take the pose, Yoga’s Parivrtta Upavistha Konasana, with your legs opened naturally at their un-stretched maximum. You then lean sideways and catch your toes as described in Figure 1. Concentrate on your sides and lower back.

Concentrate on your Lateral Muscles



Figure 2 shows a preparatory exercise in which you lean sideways, with your fingers crossed behind your head, and place your elbow on the floor behind the extended knee.

An easier pose to prepare Parivrtta Upavistha Konasana



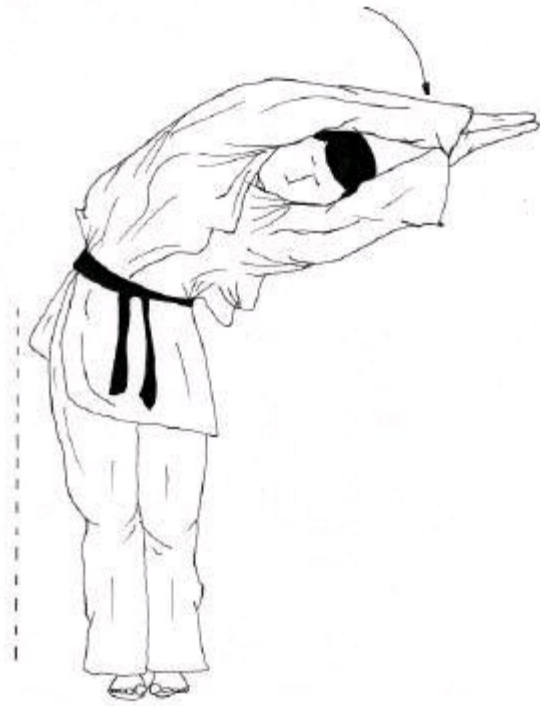
## Standing Side Bends

This is a very simple stretch, to be drilled seriously and to its maximum each time according to our proper methodology. This is said as it is a pose easily looked down upon. From a standing position, lift your hands in prayer over your head and stretch upwards as much as possible to elongate your spine. Lean sideways gradually to your maximum. Then switch sides.

### Key Points:

- Stretch the spine during the exercise
- Keep the upper body straight in line (i.e. parallel to the wall in front of you); do not twist
- Concentrate on your laterals and aim at reaching with your hands as far as possible

Lean Sideways while elongating the spine



## Seated Twist

This is the “Waist twist” already presented in Chapter 13 for glutei and hip belt work. This time you will try to concentrate on and emphasize the lower back and laterals work, i.e. the twist itself.

The pose, below, is identical to the Waist Twist.

Eka Pada Parivrtta Upavisthasana



As the twist is now the emphasis of the drill, there is a preparatory posture that works the laterals without being too difficult on the glutei, hip belt and leg muscles: Yoga’s Marichyasana III. You simply execute the pose without placing the foot of your bent leg over the thigh of the straight leg. Bend the leg up and twist as much as you can; concentrate on the twist.

Preparatory Pose to the Seated twist



The easier Marichyasana III

On the other hand, a more challenging pose would be Ardha Matsyendrasana (Half Lord of the Fishes Pose) in which you also bend the leg on which you are sitting.

The more challenging Ardha Matsyendrasana



## Extended Triangle

This is an iconic Yoga posture in which you will certainly feel your laterals stretching, especially at the beginning. You will also feel your hip belt and legs, as it is a very complete stretch, but try to concentrate on the waist. You start Utthita Trikonasana, the Extended Triangle Pose, from a wide open stance, one foot pointing forward and the other, on the same line, pointing obliquely 45 degrees. Lean sideways towards the front foot (pointing forward) and place the hand on the floor, near and behind the foot. Keep your body in line—no twisting—and extend the other arm in-line towards the ceiling. Keep your legs straight. If you have difficulty taking the posture, place your down hand on the front leg, as low as possible, but at the height that allows you to take the pose and work on the side

bend.

The pose can be executed with the hand on the floor in front or behind the leg, according to your progress.

### Key Points:

- Legs straight
- No twisting; lean with body in line
- Stretch shoulders and spine

Yoga's classic Utthita Trikonasana



Utthita Trikonasana with hand in front or behind the extended leg. In all cases, look up at your hand





# Chapter 16 Upper Body

Of course, kicking involves the whole body. In order to have a complete work-out, and for general benefit, it is recommended to include some upper body flexibility training. A few exercises are suggested. I have often seen experienced Martial Artists in Yoga or Flexibility practice who were extremely flexible in their lower body, but who had extremely tight shoulders.

Upper Body Fitness is important to many kicks



## Pectoral Doorframe Stretch

This stretches the pectorals and the shoulders. It can be executed in a doorframe, hence the name, or on a wall corner. Place the arm at shoulder height first, with the forearm bent at 90 degrees and therefore parallel to the door frame. Push your upper body forward to stretch your pectoral and anterior shoulder; you can also twist the body away if you keep the trunk straight. Treat this as a full stretch and use the right methodology to improve gradually. Switch arms.

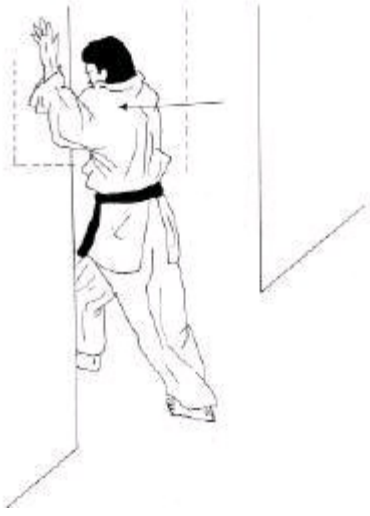
Once proficient you can start vary the arm height and the angling of the elbow for slightly different stretching effects.

### Key Points:

Keep the trunk straight

Neck erect and look forward

Pectoral doorframe Stretch; push the torso forward



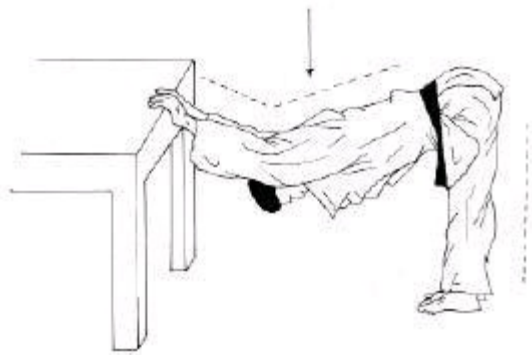
## Pectoral Table Stretch

For this pectorals-and-shoulders-stretch, you can use a table or a dance bar or anything at the right height. It is a very common relaxing stretch; treat it as a stretch to progress into. With straight legs and the body bent at 90 degrees, place your hands on the table and push your (straight) torso down. Concentrate on the stretch.

### Key Points:

- Legs and arms straight
- Trunk straight and stays in line
- Elongate spine

Bend down to stretch the upper body



## Elbow Back Pull

This is a very simple and beneficial shoulder stretch. With your arms behind your back, catch your elbow with the other hand and pull it in as much as possible. Try to gradually reach a bit more. Switch arms.

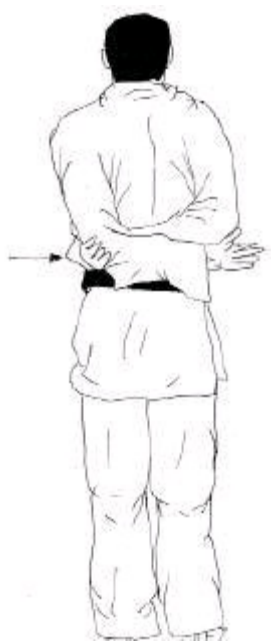
### Key Points:

Keep your body straight; do not lean

Keep the stretched elbow down and relaxed

Pull the elbow sideways, not up

Pull the elbow in your back and stretch the shoulder



## Wall Shoulder Stretch

This is a classic shoulder stretch. With your whole front arm against a wall and parallel to the ground, you twist your upper body as much as possible in the other direction. Switch sides.

### Key Points:

Make sure the whole arm and shoulder stay in constant contact with the wall

Open palm, on the wall.

Twist the upper body and neck; try to look over the other shoulder.

Arm and shoulder on the wall, stretch



## Eagle Pose Grip

This is the typical hands position in the “Eagle” Yoga Pose, Garudasana. Like often in Yoga, the pose is more complex and stretches more muscles groups; in this case, the legs are also intertwined in a difficult fashion. For our purpose, we shall only drill the arm position illustrated in Figure1 and closer in Figures 2 and 3. It may seem simple—cross your arms and place your palms together in prayer—but many athletes with well-muscled shoulders will find it extremely difficult. Proceed gradually and strive for progress; this is a very important exercise.

### Key Points:

- Start by crossing your arms as far as possible at the elbows
- Strive to place your palms fully together in prayer position; at the beginning, try to catch the thumb of the upper hands with the fingers of the lower hand
- Start high; when proficient, lower the locked hands for further stretching
- Keep upper body straight

The hand position in Yoga’s Garudasana



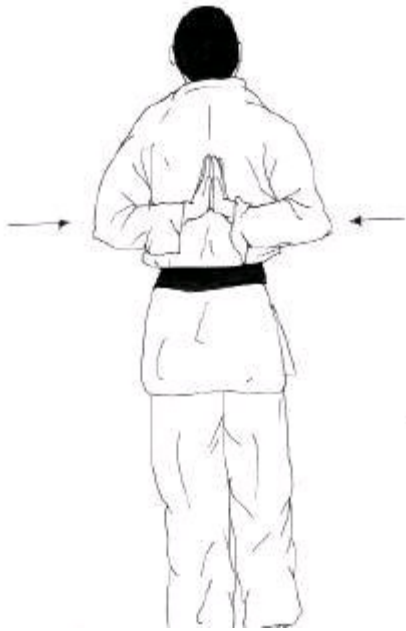
**Back Namaste**

The name of this stretch refers to the classic praying hands position of Yoga, the traditional “Namaste” greeting. But this time, you will have your hands take this position in your back. The idea, illustrated in Figures 1 and 2, is simple; the execution can be challenging. Proceed gradually and do not neglect this simple exercise that stretches the whole arm from the shoulder down.

### Key Points:

- Keep body straight
- Shoulders low and relaxed
- Start by joining the fingers; then strive to get the palms together and as high as possible.

Full and close view of the Back Namaste



### Cow’s Face Grip

This, again, refers to a Yoga pose named “Cow Face”, Gomukhasana. The pose is, again, more complex and involves a difficult cross-legged sitting posture. We shall only drill the particular hand grip of the pose. You can practice the stretch standing or sitting comfortably, as you like, as long as you make sure your back is straight. The posture is a well-known classic and is illustrated in Figures 1 and 2. Your hands grip one another in your back, with one arm from above and one from below. It is

often very difficult, and often not symmetrically easy!

This is often difficult for well-muscled athletes, and it is recommended to proceed gradually but methodically. You can start by executing the upper arm stretch only by pushing the elbow down with your other hand as illustrated in Figure 3. This should also be the beginning of the classic stretch: place your upper arm in its maximum position before you place your lower arm in position and try to make them connect.

If you find it difficult to even connect, you should proceed with the help of a band or a towel. Figure 4 shows, appropriately, the execution with a karate belt. You execute the drill with some distance between the hands but the option to pull up. Strive to reduce gradually the distance between the hands until you can have your fingers grip one another. Maybe only two fingers at the beginning; then tighten gradually your grip with more fingers and finally a tighter grip.

### Key Points:

- Body straight at all times
- Grip your fingers and then pull up to stretch the lower arm

The classical handgrip of Gomukhasana



Preparatory stretch to the Cow Face Grip



Use a belt to progress towards the full stretch



## Downward Dog Pose

We have, of course, already encountered Yoga’s “Dog Poses” in Chapter 9 for calves stretching. As mentioned, most of Yoga’s poses work on several different body areas at the same time. The “Downward Dog pose”, Yoga’s Adho Mukha Svanasana, is also a great shoulder and spine stretch. Refer to page 113 and execute the pose while emphasizing the shoulder stretch. For this, you will need to execute the “long” dog, with more distance between your hands and feet, and push your chest down as much as possible.

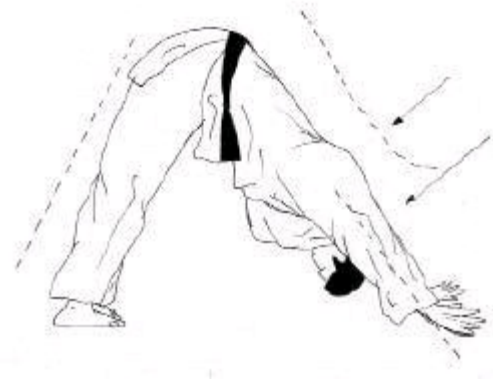
While in position, you could alternate the stretches: concentrating first on the posterior leg, and then on the shoulders.

**Key Points:**



- Keep arms straight, legs straight and heels on the floor
- Concentrate on the shoulders
- Lower the head and neck as low as possible between your arms

Concentrate on the shoulder stretch in Downward Dog pose



## Side Praying Grip

Again a simple but very effective shoulder stretch, that can also be executed any time, any place, as a relaxing exercise. As illustrated at right interlock your fingers behind your back as if in prayer; then bring the joined hands to one side. Strive to pull the hands forward. Switch sides.

### Key Points:

- Elongate the spine and stay straight
- Pull the joined hands straight forward to your front
- Try to get further each time

Front and Back view of the Side Praying Grip; concentrate on pulling the “across” arm forward



## Part 3: Other Drills

Some readers would expect at this stage a list of training routines. As already mentioned, the author does not believe in setting fixed programs to be followed blindly. The reader should be an experienced Martial Artist and can easily build his own list of exercises in order of preference and follow it. Of course, all the previous advice should be heeded.

In order to undergo the leapfrog to the next level, the artist should pursue a methodical regimen of 4 to 5 weekly hours for at least three months, on top of his regular training. As mentioned, the preferred timetable should be: Plyo, Flex, Plyo, Flex, Plyo, followed by two rest days. One of the two rest days should also be a full rest day from all other regular training. The trainee is then invited to compile his training routine as per the drills he feels are most appropriate for his goals and physiology. For plyometrics, the routine should include a mix of drills: both multi- and single response, both on-box and off-box types, and also drills involving kicking. For flexiometrics, the routine should include stretches from all muscle categories described. It is then of the highest importance that the trainee follow his weekly routine without changing it. The exercises and their sequence should be fixed for at least one month but preferably three, in order to ensure maximum progress. (As mentioned, the routines should be changed after three months, and comprise 50% new exercises from the book). The trainee should then start drilling slowly, gradually and carefully, with rests in between exercises. The first plyometrics sessions should comprise only 5 to 10 minutes of net plyometric work. The length of the plyo sessions, the difficulty and the speed can slowly be increased and the rest in between drills decreased. With training and increased familiarity, the trainee will finally do one full hour session of plyos and flexios with no rest in between drills and at his maximum performance level. It is not advised to train more than one hour for both types.

All the while, the trainee will continue his regular training: Martial Art classes in his chosen style and complementary training according to his goals. The Flexiometrics and Plyometrics presented here are only two types of complementary training for the athlete, the Martial Artist in general and the kicker in particular. There are many other training methods to improve one's performance; the author just feels that Plyometrics and Methodical Flexibility training are the most beneficial and generally the most under-used. Other general categories of training methods are listed below, although the list is sketchy and certainly not exhaustive. Many drills are also cross-overs from different categories.

### **a. Rope Skipping**

This is probably the most important of all, and it is rightly mentioned in this book: Rope Skipping is in fact a classical PLYOMETRIC exercise! It is multi-response and minimizes ground time. Rope skipping, in its many forms, is probably the most effective exercise to develop the core muscles of the lower leg involved in fast movement and body positioning. Because we are constantly walking and standing, the calves and other muscles of our lower legs are very developed and extremely difficult to challenge. Heavy weight exercises are not what are needed to stimulate all the muscles involved in fast and all-directions moves. The best way, and probably the only way, is rope skipping for bouts of at least twenty minutes. It is time-consuming, unfortunately, but there is no way around it. For time-saving purposes, rope skipping was the author's favorite warming-up drill. Once one is familiar with regular skipping, it is recommended to up the challenge with more complex skipping and the gradual

addition of weight by the way of ankle weights and/or weight vest. Remember though, that weight is not at the heart of the drill: the key point is the multi-response stimuli to the calf muscles. Weight addition is only when the drill is completely mastered and executed fast and flawlessly.

## **b. Kicking Drills**

There are many kicking drills, well-known by the artist. Besides the very important technical work in one's chosen style, a few examples of classical drills are illustrated. Not illustrated here are the many possible combinations of double kicks, triple kicks and feint kicks. Of course, this is a very limited illustrated list of examples. The number of possible kicking drills is immense.

The classic "Squat and Kick"



Another "Squat and Kick"



Kick/Chamber back/Pivot 90 degrees/Kick/Chamber back/ Pivot 90 degrees/etc etc...The foot does not go back to the floor





Spin-back down and kick up



Crescent Kicks over a partner's hand



Chamber and kick over partner



Another chambering over partner



Mark the floor and hop as far as possible while kicking



Kick Focus pad for accuracy and right trajectory



Evade and Kick

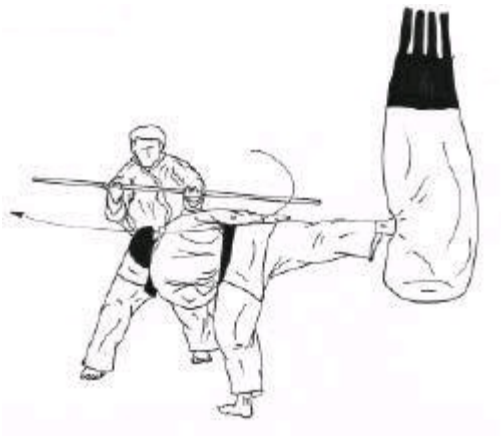




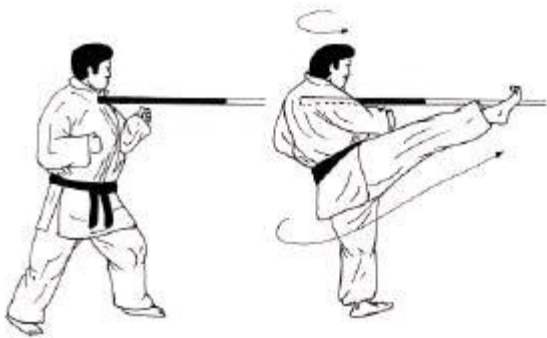
Kick from the ground



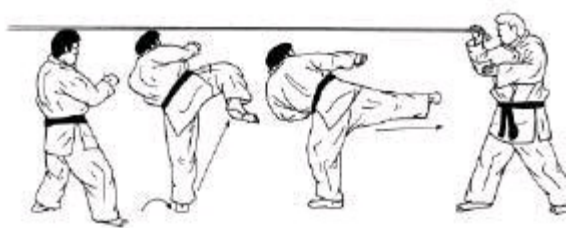
Use of a dynamic stick for body positioning during kicking



Use of a static stick for body positioning during kicking



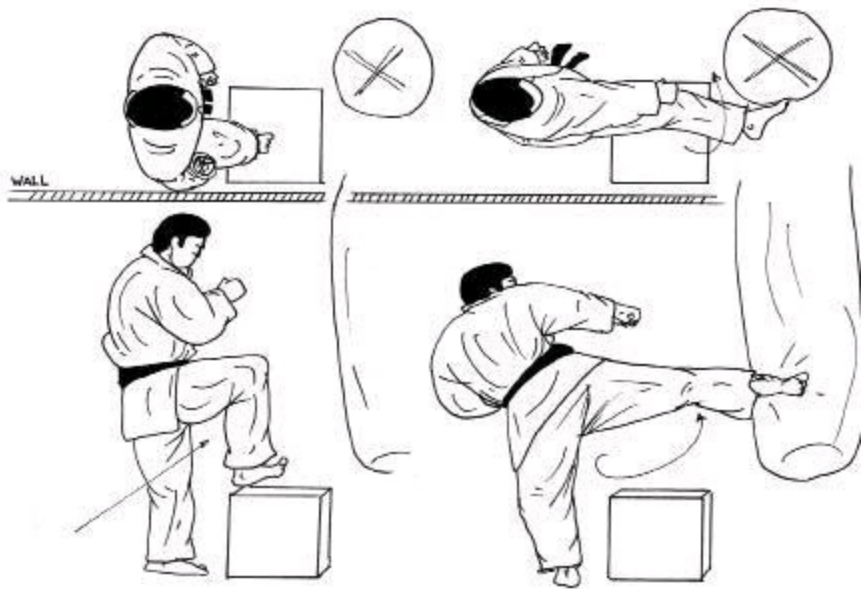
Use of a belt for head height control during kicking



Use of a ladder for accurate kicking practice



Use of a wall for correct trajectory work



Same-leg kicking in series, let the foot “rebound” on the floor. Execute at least 20 kicks before switching legs







### c. Kicking Drills With Props

The use of props for technical orthodoxy, target and trajectory practice has been hinted at in previous work. A few examples are presented here. Again, those are only a few of many.

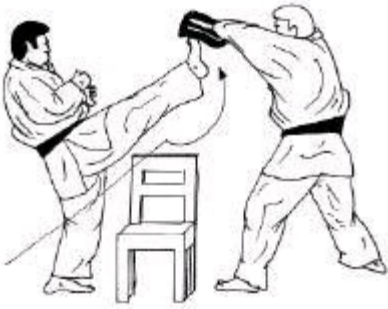
The use of a chair for good chambering



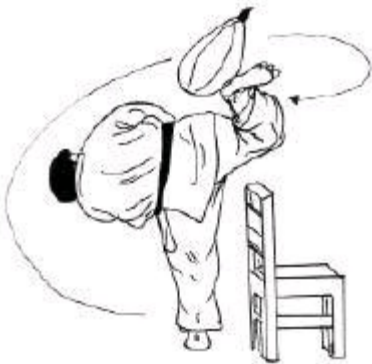
The use of targets like Body Shields and Focus Pads



The use of a chair and a focus pad or a heavy bag



The use of a chair and a boxing speedball



The use of a stick for spinning back drills



The use of a medicine ball: downward heel "axe" Kick and Spin-back ground hook kick



The use of a belt for high chambering



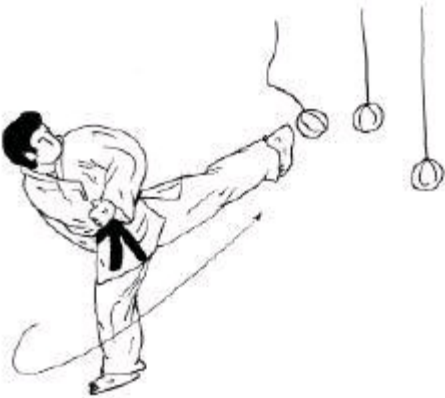
A heavy bag can also be used on the floor



The use of an old tire for impact and target training



The use of hanging tennis balls for accuracy- and “hooking” effect-training



The use of an elastic band between the knees. Many drills are possible





#### d. Ankle weights kicks

Ankle weights or iron boots are an essential tool in kick building. There is no better way to work the specific muscles involved in the kick than having to increase the effects of gravity. Always remember, after a series of weighted kicks, to immediately execute the kick a few times without weight. It is recommended, when working with ankle weights or iron boots (or ski boots), to pay particular attention to a technically perfect kick. For example, kicks requiring high chamber should be drilled with a chair or an obstacle ensuring this proper chamber. As mentioned, the author thinks that ankle weights combined with plyometrics are for the extremely well-conditioned elite athletes only, because it requires well trained core muscles and joints to prevent injury.

Iron Boots- and Ankle Weights-kicking. Try to use props for good form and remember to always kick free-of-weight at the end of the drill



#### e. Isometrics and Dynamic Self-Resistance

Isometrics are a very safe and easy way to build the kicking muscles. They are by definition done in static positions. Theoretically, the joint angle and muscle length do not change during the muscle contraction. An example would be pushing to develop a kick against the wall (overcoming isometrics: you cannot push the wall away) or maintaining the position against a partner's weight (yielding isometrics: you could push the partner away if you wished to). Maintaining the leg in extended kicking position is another example of a truly isometric exercise, well-known in Martial Arts training halls. In fact, many Yoga balance exercises are extremely beneficial isometric exercises, as maintaining the position and balance requires the static work of many opposing muscle groups. Presented here, just as an illustration are the Chair Pose (Utkatasana) and the Warrior 3 Pose (Virabhadrasana).

A close relative of Isometrics is Dynamic Self-Resistance, in which you use your own muscles against their opposites. In this case, the muscle length does change, albeit very very slowly against the resistance of another muscle group. This is the typical slow and hard forms (kata) of the classical Okinawan styles of Karate like Goju-ryu or Uechi-ryu. An example would be the slow development of a kick with all muscles tensed, pitting quadriceps against hamstrings among others.

After isometric and dynamic tension exercises, it is recommended to do a few fast and loose moves to relax the muscles involved.

Front Kick Chamber against the push-back of a partner, an example of yielding isometrics



Maintaining the leg in front kick position is also a great isometric exercise



## **f. Weight Training**

Working the leg muscles is, of course, a basic requirement for the kicking artist. Squats and lunges should be drilled carefully on behalf of the knee joints. A muscle building regimen should include work on all the leg's muscles: not only quads and hamstrings, but also abductors and adductors, and glutei. And, of course, the laterals, abdominals and lower back are part of the kicking lines of supply.



Muscles can be built with weight machines, free weights and weightless exercises. All types are valid and it is recommended, again, to stick to an exercise program for a minimum of one month and a maximum of three. Then, the program should change to new exercises and reps/sets combinations. Bodybuilding routines, methods and theories are beyond the scope of this book. A few photos will simply illustrate the subject.

Leg Curl (Hamstrings) Machine



Gluteus work on the rotary weight machine



Adductor Machine



Leg Press Machine





Calf Machine



Abductors Machine



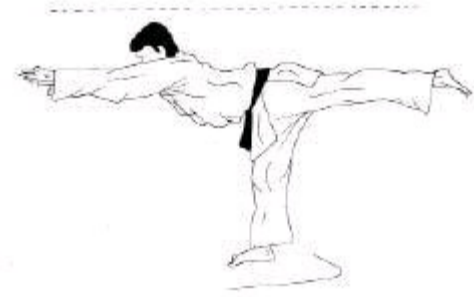
Leg extension (Quadriceps) Machine



## **g. Balance Drills**

Balance drills are important in that they stimulate the entire set of little core muscles and ligaments involved in position correction. Those play a key role in fast movement and kick trajectory. Those exercises are often undeservedly neglected because they seem “easy” and “soft”. Besides the “isometric” yoga poses already presented, the iconic “tree pose” is highly recommended, as it stimulates all the small core muscles of the lower leg that are difficult to exercise otherwise. Another great drill is the standing, punching, kicking and “free sparring” atop “Bosu” balls (Bosu balance trainers) or related equipment.

Examples of Yoga balance poses building muscle power isometrically: Respectively Utkatasana and Virabhadrasana



The airplane, a variation of the Virabhadrasana balance pose; isometric muscle-building exercise



Yoga’s Tree Pose, Vrksasana





### h. Impact Training

There is no alternative to kicking into something in order to learn to channel all power to the point of impact, in sports or in real combat. It is all the more important if the trainee has even the slightest fear of hurting his toes or other foot part when kicking, as it can unconsciously cause the body to slow the kick. All kicks must be drilled for power development at impact and the feeling of the force reaction, whether the power at impact comes from strength and hip thrust, or comes from speed. Heavy bags of all contents, forms and sizes, punching balls, focus pads, protected partners, tires, bean bags, Makiwara, ... everything goes. The Shi-Heun students regularly use end-of-season banana trees plantations for long sessions of impact training.

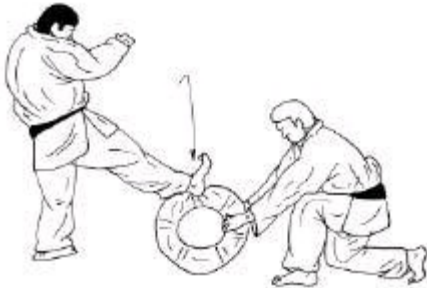
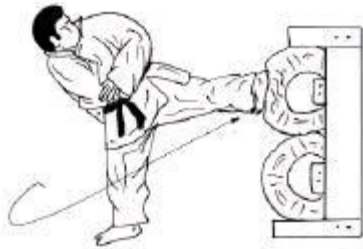
Body shield and focus pad



Heavy bag hanging or on the ground



Old tire, fixed or hold by partner



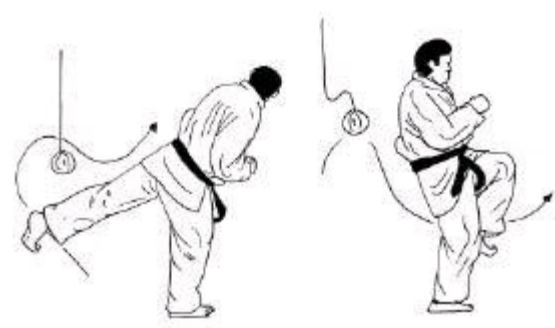
The classic Japanese Makiwara



Standing bags of all types, with or without medicine ball on top



Boxing speed-ball or hanging tennis balls



Even the wall, padded or not, and old phonebooks

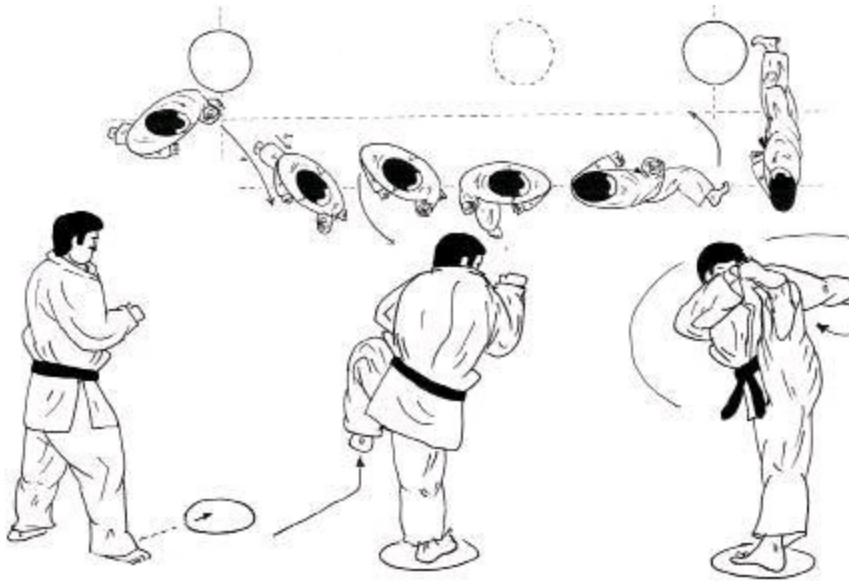
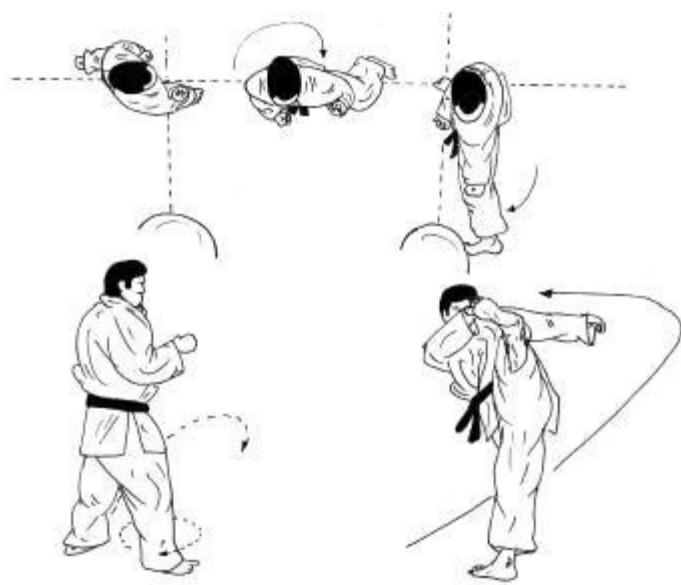


### **i. Angling, Trajectory Work and Ground Kicking**

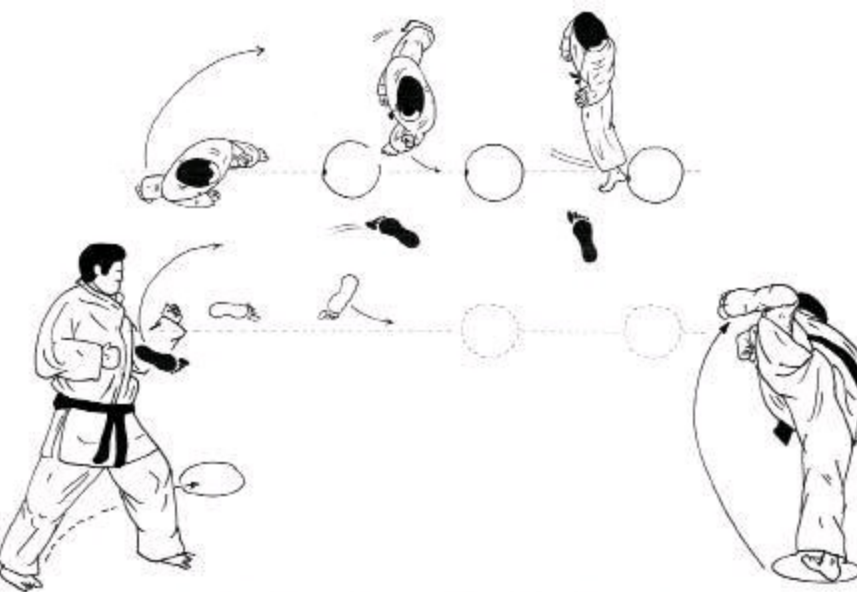
In free or real fighting, your opponent will rarely stay in place and wait for your kicking. It is important to drill angling your kicks, changing their trajectory during delivery and delivering them from unexpected positions. Your front kick could go further with in-delivery hop. It could curve on delivery to sneak into your opponent's guard. It could be delivered while pivoting sideways to follow an evading adversary. A few examples are presented here, but there are many more.

Ground Kicks and Dropping (to the ground) Kicks are a great way to improve the standing kicks. Not only does it teach you kicking from awkward or moving positions, it also makes you use all kinds of small muscles against gravity, muscles that do not encounter the same stress when kicking standing up. A few ground kicks are presented, as well as classical calisthenics/aerobic exercises relevant.

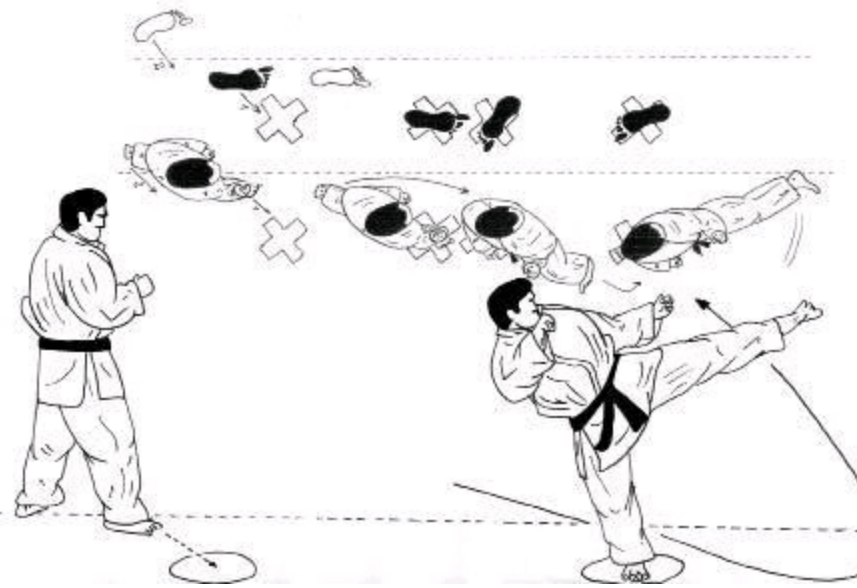
Two angling ways to drill the Roundhouse Kick



Two angling ways to drill the Hook Kick



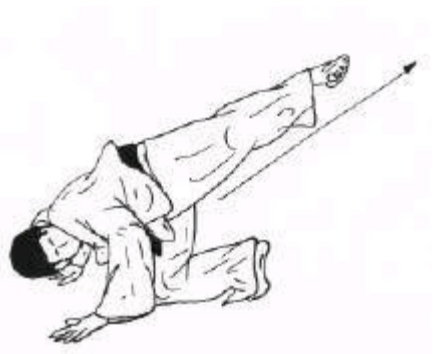




Side straight-leg lift; great muscle builder



A ground version of the Front, Side and Back Kick







Ground Roundhouse Kick to the side; great for the hip muscles



### j. Telegraphing

Initiating kicks and combination attacks in front of the mirror or with a cooperating partner is an important drill. Look, or have him look at any telltales, shoulder drops, foot twitching, head bobbing, and others that would give away your imminent attack. You should strive to explode forward instantly, with no telegraphing.

### k. Free Fighting

There is no alternative to mixing it all together in front of an opponent that moves, attacks, blocks, evades and more. This should be preferably done with several sets of rules to familiarize the fighter with the fact that the rules of engagement always influence the way to fight. Besides light sparring and one's fighting in the framework of his school's rules, it is beneficial to learn to spar with different and also minimal rules for real-life closeness. Of course with caution and supervision.

The author welcomes any comment, suggestion, additional interesting drills or testimonials at [martialartkicks@gmail.com](mailto:martialartkicks@gmail.com)

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Mantesh